Agenda Item F-4

City of Tacoma
Planning and Development Services

To:	Planning Commission
From:	Larry Harala, PDS Land Use Lihuang Wung, PDS Planning
Subject:	**2022 Amendment – Application "NewCold"**
Memo Date:	February 25, 2022
Meeting Date:	March 2, 2022

Action Requested:
Comment, Direction, and Consider Releasing for Public Review.

Discussion:
At the next meeting on March 2, 2022, the Planning Commission will continue to review the 2022 Annual Amendment to the *One Tacoma Comprehensive Plan* and Land Use Regulatory Code (or "2022 Amendment"), focusing on the application of "**NewCold Land Use Designation Change**."

The Commission reviewed the application on February 2, 2022, raised a number of questions, and requested that the questions be responded to or clarified as appropriate, before the application is released for public review. Staff has prepared an FAQ document (see "**Attachment #1**") for the Commission's review. Also attached ("**Attachment #2**") is a revised staff report including appropriate supplemental materials that document the staff analysis and preliminary recommendations.

Upon completing the review of the above information, the Commission will be requested to release the application (along with other applications included in the 2022 Amendment Package) for public review.

Project Summary:
The 2022 Amendment is an annual process for amending the Comprehensive Plan and/or Land Use Regulatory Code pursuant to Tacoma Municipal Code, Section TMC 13.02.070. The process began with accepting applications during January-March 2021 and is slated for completion in June 2022. The Planning Commission is tentatively scheduled to release the 2022 Amendment Package for public review on February 16, conduct a public hearing on March 16, and make a recommendation to the City Council on April 20; and the City Council's review/adoption will occur in May-June 2022.

Prior Actions:
- 02/16/22 – Review status of "Work Plan for STGPD Code Amendments" and "Minor Plan and Code Amendments"
- 02/02/22 – Review status of "NewCold" and "South Sound Christian Schools"
- 01/19/22 – Review status of "Minor Plan and Code Amendments"
- 12/15/21 – Review of private applications
- 10/06/21 – Review status of all applications
- 07/21/21 – Determination on Applications (proceeding with technical analysis)
- 06/16/21 – Public Scoping Hearing on the Applications

- 05/19/21 – Assessment of “South Tacoma Economic Green Zone” and “Minor Plan and Code Amendments”
- 05/05/21 – Assessment of “NewCold” and “South Sound Christian Schools”

Staff Contacts:

- Larry Harala, lharala@cityoftacoma.org
- Lihuang Wung, lwung@cityoftacoma.org

Attachments:

1. Frequently Asked Questions on Issues Related to Annual Amendment
2. Staff Report for Application “NewCold”

c. Peter Huffman, Director

NewCold Facility Land Use Designation Change

Staff Analysis Report

March 2, 2022

A private application to amend the land use designation on the City of Tacoma Future Land Use Map (Figure 2 of the *One Tacoma Plan*) at the subject site from a "Light Industrial" to "Heavy Industrial" designation. The applicant has expressed a desire to develop the subject 3-acre parcel in a manner consistent with their adjacent 34-acre heavy industrial cold storage facility. The applicant's future development plans would require a rezone to an M-2 Heavy Industrial Zoning District, which is not supported by the current policy. If the amendment request is approved by the City Council, a subsequent site rezone application would be required to consider the reclassification of the site to the M-2 Heavy Industrial District.

Project Summary	
Project Title:	NewCold Land Use Designation Change Request
Applicant:	NewCold Seattle, LLC – Matt Richardson, NewCold Business Manager
Location and Size of Area:	4601 S Orchard St Tacoma, WA 98466 (APN: 0220133049) Site is approximately 3 acres/130,500SF
Current Land Use and Zoning:	Site is Designated Light Industrial Zoning District: M1- STGPD Light Industrial District & South Tacoma Groundwater Protection District
Neighborhood Council Area:	South Tacoma
Staff Contact:	Larry Harala, Principal Planner, (253) 318-5626, lharala@cityoftacoma.org
Staff Recommendation:	That the Planning Commission accept public comment and begin to develop recommendations to the City Council.
Project Proposal:	See Exhibit "A", attached.

Planning and Development Services
City of Tacoma, Washington
Peter Huffman, Director

Project Manager:
Larry Harala, Principal Planner
lharala@cityoftacoma.org

Project Website:
www.cityoftacoma.org/2022Amendment

A. Area of Applicability

The subject site is located at 4601 S Orchard Street and is a 3-acre lot adjacent to the existing NewCold cold storage facility.

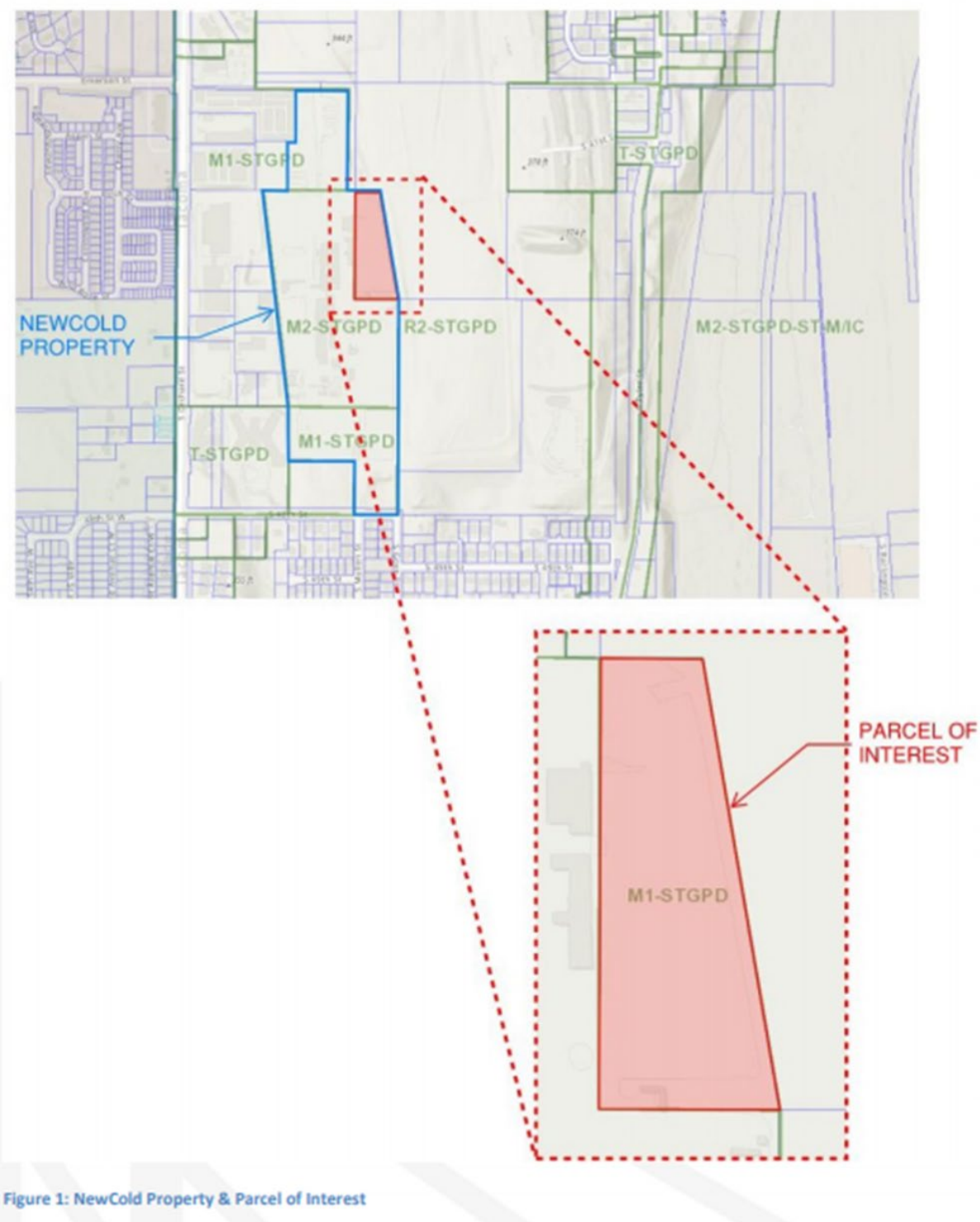


Figure 1: NewCold Property & Parcel of Interest

B. Background

The parcel in question is located east of South Orchard Street off South 46th Street. The site was graded previously for development and is flat and vacant, with no trees or other substantial vegetation. The parcel is in the northeast section of NewCold's property located at 4601 South Orchard Street. The parcel is highlighted on the previous pages above, along with the rest of NewCold's property.

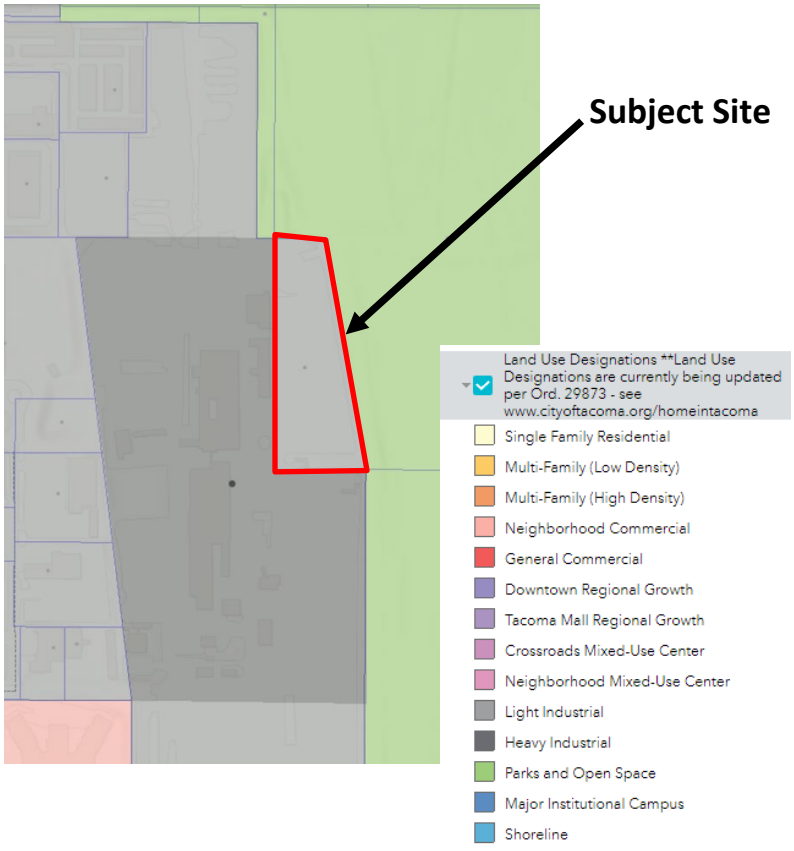
The NewCold heavy industrial cold storage facility was completed in 2018, the facility has a storage capacity of over 25 million cubic feet in a vertical cold storage layout, with an approximate 100,000 pallet capacity. The facility is utilized by large food companies such as Trident Seafoods as a cold storage link in their supply chains. The existing cold storage complex sits on approximately 34 acres, and the subject parcel is an adjacent 3-acre property, directly to the east of the existing approximately 140-foot tall cold storage building.

The parcel has been zoned M-1 Light Industrial since 1989 (Ordinance #24393) and is within the South Tacoma Groundwater Protection District (TMC 13.06.070). The surrounding site developed as a heavy industrial cold storage site has been zoned M2-Heavy Industrial since March 9, 1965 and that adjacent parcel was previously utilized as warehouse and industrial manufacturing and was redeveloped in 2015-2017 to the present use. The subject site was used for industrial storage, pipe, concrete, vehicles and equipment. (See attached Rezoning document).

Staff notes that the applicant indicated a desire for future phase expansion of the facility later onto the subject portion as part of required SEPA evaluation in 2016.

Image below: Existing Cold Storage Facility

Image below: Existing Land Use Designations



The applicant is requesting the land use designation amendment from light industrial to heavy industrial to facilitate a likely future site rezoning request from an M-1 Light Industrial District to an M-2 Heavy Industrial Zoning District. Zoning decisions must be consistent with the Comprehensive Plan, which identifies a specific relationship between the land use designations in the Plan and the implementing zoning district. The table below summarizes this relationship and the type of character and impact expected in a light industrial area and heavy industrial area.

Comprehensive Plan Land Use Designation	***Potential Uses and Impacts***	***Potential Zoning Districts*** *Per the Comprehensive Plan Urban Form Element*
Light Industrial	• Moderate sized buildings • Moderate scale production • Lower noise, odors and traffic generation. • Various types of light manufacturing and warehousing and high-tech industries, • Commercial and some limited residential uses also allowed	• M-1 – Light Industrial District
Heavy Industrial	• Higher levels of noise and odor • Large scale structures • Large scale production • Extended operating hours • Heavy Truck Traffic • Commercial and residential uses heavily restricted	• M-2 - Heavy Industrial District • PMI – Port Maritime & Industrial District

C. Analysis

It is imperative that both the Comprehensive Plan and the Code are properly maintained. The overall objective of the Minor Pan and Code Amendments is to keep the Plan and the Code current, respond to the changing circumstances, and enhance customer service. Staff analysis of this application has been conducted in accordance with TMC 13.02.070.F.2, which requires the following four provisions be addressed, as appropriate:

- A staff analysis of the application in accordance with the elements described in 13.02.070.D;
- An analysis of the consistency of the proposed amendment with State, regional and local planning mandates and guidelines;
- An analysis of the amendment options identified in the assessment report; and
- An assessment of the anticipated impacts of the proposal, including, but not limited to: economic impacts, noise, odor, shading, light and glare impacts, aesthetic impacts, historic impacts, visual impacts, and impacts to environmental health, equity and quality.

a. A staff analysis of the application in accordance with the elements described in 13.02.070.D;

TMC 13.02.070.D, subsection 5.d.(1), requires that the following objectives shall be met by applications for the annual amendment:

- **Address inconsistencies or errors in the Comprehensive Plan or development regulations;** Staff does not find that this application addresses errors or inconsistencies.

- **Respond to changing circumstances, such as growth and development patterns, needs and desires of the community, and the City's capacity to provide adequate services;** Staff finds that there is connection to this element, development of the adjacent site, quality job growth and a need to serve the container port are compelling.

- **Maintain or enhance compatibility with existing or planned land uses and the surrounding development pattern;** Staff finds that this application is in character with the surrounding designations, a small parcel abutted by landfill on one side and an existing, much larger heavy industrial facility on the other warrants consistent designation.

- **Enhance the quality of the neighborhood.** Staff has no finding on this element, rather staff will note that the key will be conditions imposed on the site-specific rezoning and the applicants plan to address possible SEPA findings and proposal to meet and/or exceed the cities development standards and requirements at the time of specific development proposal. There are further steps that would need to be taken, and this element cannot be assessed at this time.

b. An analysis of the consistency of the proposed amendment with State, regional and local planning mandates and guidelines;

Staff has identified the following pertinent policies for the Planning Commission's review of the proposal for consistency with the Comprehensive Plan. Staff notes that the proposal is generally compatible with the following goals and polices contained within the One Tacoma Comprehensive Plan. Staff also finds that the applicant has made a very significant multi-million dollar investment in the adjacent site, which does provide living wage, diverse, job opportunities which promote the cities broad economic and equity goals. The applicant is making a substantial, long term, investment in Tacoma and that should be noted in terms of assessment of future development of the subject site. The applicant has high incentive to follow all federal, state and city laws, polices, requirements and directives. Furthermore, at the scoping hearing the Planning Commission received testimony stating that the facility is hiring Tacoma residents, training, promoting and educating them in ways that has allowed strong upward mobility for many residents. The applicant has stated than approximately 90-100 employees work at the facility and the average wage is well above the per capita wages for Pierce County. This request may enable expansion of the existing facility which may lead to more employment and further stabilize existing employees opportunities for continued career and wage growth.

Staff does find that there can be a nexus to the cities sustainability goals, in that efficient food storage facilities can help with food waste and also help with the cost of food for Tacomans and for people around our state and nation, perhaps even internationally. As the recent pandemic has highlighted, supply chain considerations are vital for the health of our local, regional and national economy, the City of Tacoma has incentive to ensure that local supply chain facilities are protected and allowed reasonable opportunities for expansion and growth within the goals and polices set forth by the City Council.

Urban Form:

- **Goal UF–1**: Guide development, growth, and infrastructure investment to support positive outcomes for all Tacomans.
- **Policy UF–1.1:** Ensure that the Comprehensive Plan Land Use Map establishes and maintains land use designations that can accommodate planned population and employment growth.
- **Policy UF–1.4:** Direct the majority of growth and change to centers, corridors, and transit station. areas, allowing the continuation of the general scale and characteristics of Tacoma's residential. areas.

  Policy UF–1.6: Support energy-efficient, resource-efficient, and sustainable development and transportation patterns through land use and transportation planning.
- **Policy UF–1.11:** Evaluate the impacts of land use decisions on the physical characteristics of neighborhoods and current residents, particularly underserved and under-represented communities. Avoid or reduce negative development impacts, especially where those impacts inequitably burden communities of color underserved and under-represented communities, and other vulnerable populations. b. Make needed investments in areas that are deficient in infrastructure and services to reduce disparities and increase equity and where growth and change are anticipated.

Design + Development:

- **GOAL DD–4:** Enhance human and environmental health in neighborhood design and development. Seek to protect safety and livability, support local access to healthy food, limit negative impacts on water and air quality, reduce carbon emissions, encourage active and sustainable design, and integrate nature and the built environment.
- **GOAL DD–7**: *Support sustainable and resource efficient development and redevelopment.*
- **GOAL DD–9:** *Support development patterns that result in compatible and graceful transitions between differing densities, intensities and activities.*
- **Policy DD–9.2a**: *Improve the interface between non-residential activities and residential areas, inareas where commercial or employment areas are adjacent to residential zoned land.*
- **GOAL DD–10**: *Ensure that all citizens have nearby, convenient and equitable access to healthy foods.*

Economic Development:

- **GOAL EC–1**: Diversify and expand Tacoma's economic base to create a robust economy that offers Tacomans a wide range of employment opportunities, goods and services.
- **GOAL EC**—2: Increase access to employment opportunities in Tacoma and equip Tacomans with the education and skills needed to attain high-quality, living wage jobs.
- **Policy EC–1.12:** Actively seek investments to grow Tacoma's presence in the following target industries:
  a. Bio-medical and medical
  b. Information technology and cyber security
  c. Professional services
  d. Industrial and manufacturing
  e. Tourism and hospitality
  f. Creative economy
  g. International trade
  h. Finance and Insurance

- **GOAL EC–2:** Increase access to employment opportunities in Tacoma and equip Tacomans with the education and skills needed to attain high quality, living wage jobs.

Container Port:

- **GOAL CP–3.1**: *Work in partnership with the Port of Tacoma to target and recruit new businesses that support port and port-related industrial activity.*
- **GOAL CP–3.2**: Identify and consider opportunities to remove obstacles to development and to incentivize businesses that support container port and port-related industrial activity.
- **Policy CP–3.3** Consider coordinating an industrial development workforce program for local citizens. Act as a facilitator between businesses, educational institutions, trade associations and residents in order to reduce the workforce development burden of individual businesses and expand employment opportunities for citizens.

c. An assessment of the anticipated impacts of the proposal, including, but not limited to: economic impacts, noise, odor, shading, light and glare impacts, aesthetic impacts, historic impacts, visual impacts, and impacts to environmental health, equity and quality.

Anticipated Economic Impact

According to NewCold, the proposed project would have the following employment benefits, and City of Tacoma Community and Economic Development Department staff consider the facility to be vital to the cities continued efforts to grow and diversify the local economy in conjunction with the container port and present employment mix of the city and south sound region.

- Phase 1 of the site brought approximately 100 jobs to Tacoma
  - Phase 2 (with the designation requested) would generate an estimated 100 new permanent jobs, temporary jobs during any development or construction activities, and seasonal jobs once operations commence.
- Many of the staff roles at the existing NewCold facility require a unique skillset and robust training is required in the following practices:
  - IT, Logistics, Automation, Engineering, Maintenance.
- NewCold asserts that it empowers its employees with the on-the-job training to be successful, and during the scoping hearing several employees testified that they had received such opportunity.
  - NewCold states that it continually invests in training and mentorship of employees
- As of 2020 –
  - NewCold Tacoma Average Annual Salary = $64,280 (the 2019 Pierce County Per Capita Income according the US Census Bureau was $34,618 for 2019).

Preliminary Traffic study, Heath & Associates (see Attachment A)

A preliminary traffic impact analysis was conducted by Heath & Associates on behalf of the applicant, the traffic engineer conducting the analysis was Aaron Van Aken, PE. The findings of the report are that the expansion is likely to increase the traffic count along Orchard Street, by an estimated 386 vehicle trips per day. The level of service for the intersection at 46th and Orchard Street would go from a B to C level, but the study indicates that might be the case regardless of an expansion of the NewCold facility or not and that this level of increased traffic does not constitute a major impact.

Preliminary Sound and Light Study, Landau and Associates (see Attachment B)

A preliminary noise and light analysis has been conducted by Landau and Associates, an environmental and geotechnical analytics firm, on behalf of the applicant. The report measured current noise and light levels at the facility and made projections based on the possible expansion of the facility. The findings were that if such an expansion were done the facility could still be in compliance with federal, state and City of Tacoma regulatory limits for both noise and sound with reasonable measures. The report points out that the facility is situated against the city landfill site and that the nearest residential properties are about 800 feet, so direct impacts to residents would be minimal. The report also examines the Joint Base Lewis McChord lighting study and finds that measures taken on the facility can ensure that it complies with general "dark sky" measures, and would comply with what that study calls for.

D. Public Outreach

Public outreach for the "NewCold Land Use Designation Amendment" application has been conducted as part of the Planning Commission's meetings when this application was on the agenda – on May 19, 2021 (reviewing scope of work), June 16, 2021 (Public Scoping Hearing), and July 21, 2021 (approval of scope of work).

Public notice for the Planning Commission Public Scoping Hearing was mailed out to over 30,000 South Tacoma residents for the scoping hearing, including residents of areas outside the city limit boundaries within 2,000 feet of this site.

Staff conducted a virtual community informational meeting on December 6th, 2021. Notice was mailed out approximately two weeks prior to the meeting, and the low attendance was in keeping with a lower public interest exhibited during the public scoping phase during the summer of 2021. The mailing for this meeting was to approximately 715 area residents and property owners within a 2,500 foot radius from the site.

The Commission is scheduled to conduct a public hearing on the 2022 Amendment on March 16, 2022 (tentatively). Additional public outreach for all the applications for the 2022 Amendment will be conducted prior to and during the public hearing process.

E. Recommendation

Staff recommends that the Planning Commission release this staff report and Exhibit "A" for public review and comment.

After the public hearing, staff will facilitate the Commission's review of public comments, decision making, and formulation of recommendations to the City Council, pursuant to TMC 13.02.070.H, as cited below:

H. Findings and recommendations.
   1. Upon completion of the public comment period and review of the public testimony, the Planning Commission will make a determination as to whether the proposed amendments are consistent with the following criteria:
      a. Whether the proposed amendment will benefit the City as a whole, will not adversely affect the City's public facilities and services, and bears a reasonable relationship to the public health, safety, and welfare; and

b. Whether the proposed amendment conforms to applicable provisions of State statutes, case law, regional policies, and the Comprehensive Plan.

2. The Commission will prepare a recommendation and supportive findings to forward to the City Council for consideration.

F. Exhibit

- Exhibit "A" – NewCold Land Use Designation Amendment

G. Supplemental Information

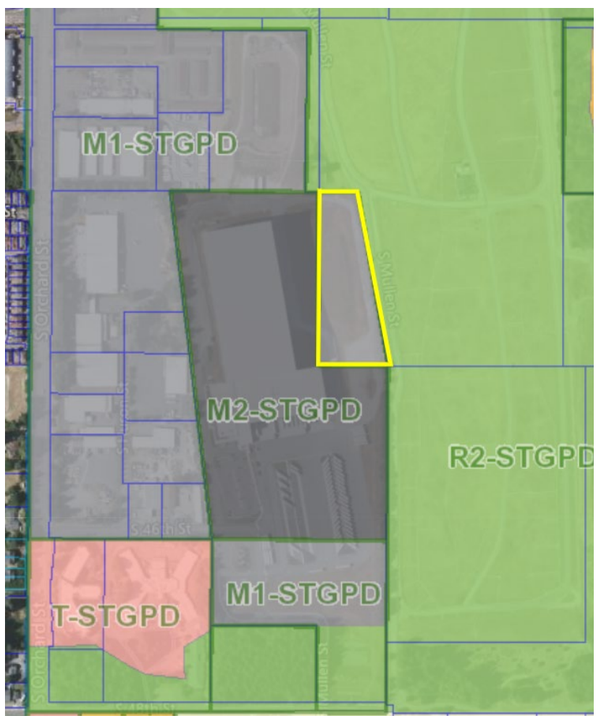
- Attachment A: Traffic Impact Analysis
- Attachment B: Noise and Light Study
- Attachment C: FAQ Document (shared with the South Tacoma Baptist Schools Land Use Designation Change Request)

# # #

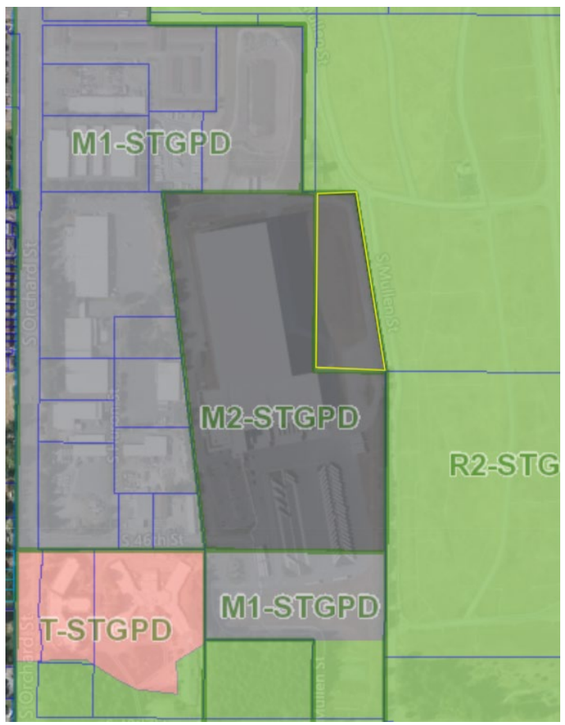
2022 Comprehensive Plan and Land Use Code Amendments

EXHIBIT A: NewCold

CURRENT LAND USE DESIGNATION: LIGHT INDUSTRIAL



PROPOSED LAND USE DESIGNATION: HEAVY INDUSTRIAL



Light Industrial Designation Description:

This designation allows for a variety of industrial uses that are moderate in scale and impact, with lower noise, odors and traffic generation than heavy industrial uses. This designation may include various types of light manufacturing and warehousing and newer, clean and high-tech industries, along with commercial and some limited residential uses. These areas are often utilized as a buffer or transition between heavy industrial areas and less intensive commercial and/or residential areas.

Heavy Industrial Designation Description:

This designation is characterized by higher levels of noise and odors, large-scale production, large buildings and sites, extended operating hours, and heavy truck traffic. This designation requires access to major transportation corridors, often including heavy haul truck routes and rail facilities. Commercial and institutional uses are limited and residential uses are generally prohibited.

APPLICANT: NewCold Seattle, LLC

SITE LOCATION: 4601 S Orchard Street, Tacoma WA

AMENDMENT TYPE: Comprehensive Plan Future Land Use Map Amendment

WHY IS THIS CHANGE PROPOSED?

NewCold is applying for a Comprehensive Plan Land Use Designation amendment to update a parcel of the Tacoma site to allow for future expansion of an existing facility. The parcel in question is currently designated as “Light Industrial” and NewCold is requesting that the parcel be re-designated to Heavy Industrial. The existing cold storage complex sits on approximately 34 acres, and the subject parcel is an adjacent 3-acre property, directly to the east of the existing approximately 140-foot tall cold storage building.

The NewCold heavy industrial cold storage facility was completed in 2018, the facility has a storage capacity of over 25 million cubic feet in a vertical cold storage layout, with an approximate 100,000 pallet capacity. The facility is utilized by large food companies such as Trident Seafoods as a cold storage link in their supply chains.

If granted, the land use designation change to Heavy Industrial would enable NewCold to apply for a rezone to an M-2 Heavy Industrial Zoning District.

To learn more: visit www.cityoftacoma.org/2022amendment or email at planning@cityoftacoma.org.

Attachment A

NEWCOLD TACOMA
TRAFFIC IMPACT ANALYSIS

City of Tacoma, WA

02/1/2022

Prepared for: Sarah Remington
NewCold Seattle, LLC
4601 S Orchard St
Tacoma, WA 98466

February 2022

NEWCOLD TACOMA
TRAFFIC IMPACT ANALYSIS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

NEWCOLD TACOMA
TRAFFIC IMPACT ANALYSIS

1. INTRODUCTION

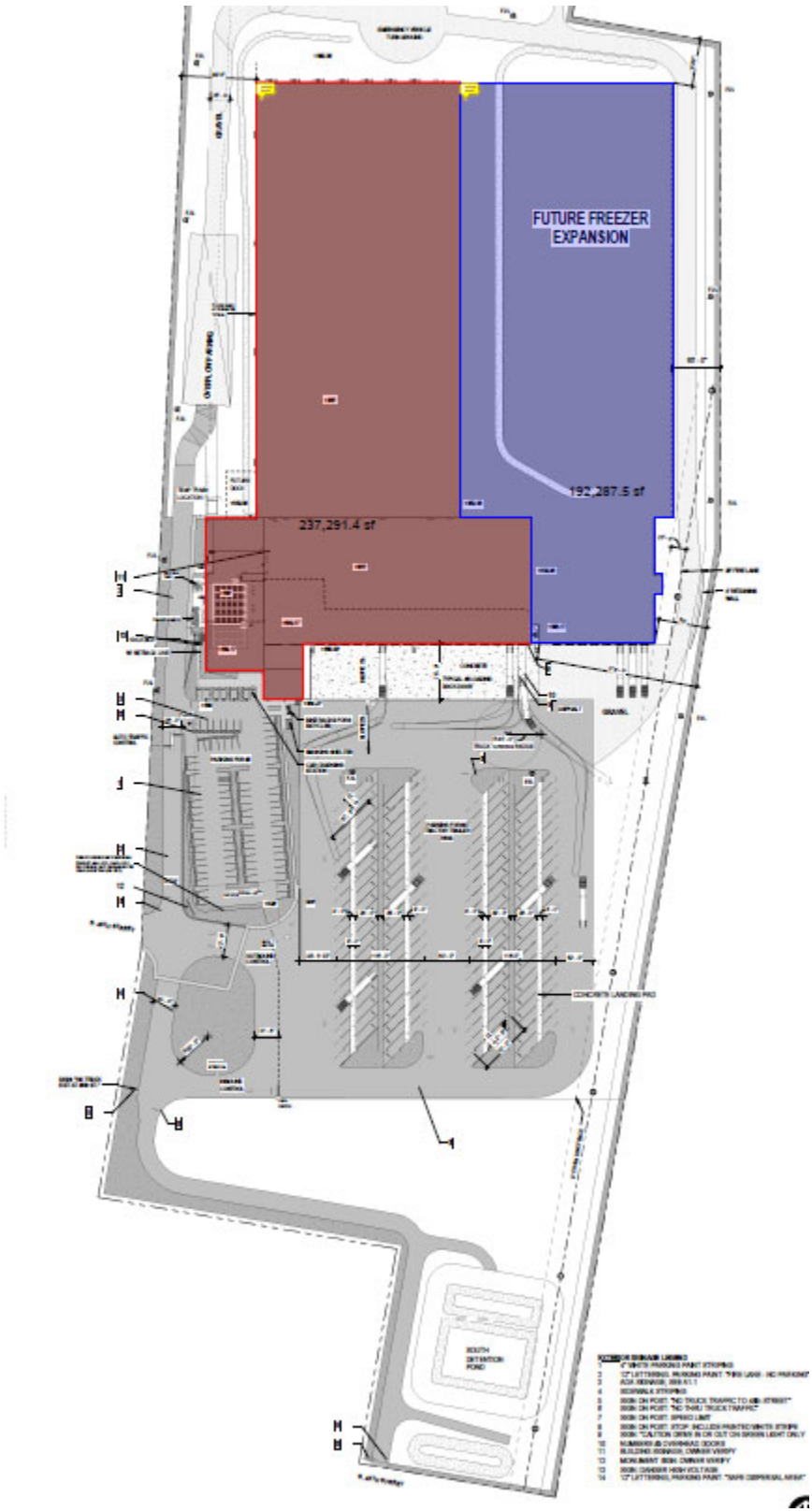
The main goals of this study focus on the assessment of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent streets serving the subject site and gathering existing vehicular volumes within a defined study area. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined, if needed.

2. PROJECT DESCRIPTION

NewCold Tacoma proposes for a future expansion of an existing cold storage warehouse facility located in the city of Tacoma. The subject site is located within 33.79-acre tax parcel #: 0220133049 and is east of S Orchard Street and accessed primarily by way of S 46th Street. The existing building comprises approximately 237,291 square feet. An expansion, as predicated of a proposed rezone for the subject parcel from M1 to M2 could expand the building or construct a new building comprised of an estimated up to 200,000 square feet. This evaluation examines the existing activity occurring at the facility to derive future traffic estimates for a future project expansion. A vicinity map of the surrounding roadway network is provided below. Figure 2 illustrates a conceptual site plan with the area of expansion.

Figure 2: Conceptual Site Layout

Illustrated in red is the existing building footprint. In purple is the subject expansion area.



3. EXISTING CONDITIONS

3.1 Existing Street System

The street network serving the proposed project consists of a variety of roadways. The major roadways and arterials defined in the study area are listed and described below.

S Orchard Street: is a multi-lane, north-south, principal arterial west pf the subject site. Travel lanes are approximately 10-11 feet in width. The roadway cross-section consists of two travel lanes in either direction and a center two-way left-turn lane or left-turn lane. Sidewalk is generally provided along the east side of the roadway. The posted speed limit is 35-mph.

S 46th Street: is a two-way local roadway providing access to the subject property. As part of the NewCold Phase 1 development, the roadway at its intersection with S Orchard Street was constructed to include separate left- and right-turn lanes. No non-motorist facilities are present.

3.2 Transit Service

A review of Pierce Transit's service system indicates that transit is readily provided in the vicinity of the subject site. The nearest bus stops in relation to the subject site are provided at the intersection of S Orchard Street & S 46th Street Route 53 (~640' east of the subject parcel), serving Route 53. Route 53 – University Place provides service from the TCC Transit Center to the Tacoma Mall Transit Center. Weekday service is provided from 5:50 AM – 10:45 PM with approximately 30-minute headways. Saturday service is provided from 9:25 AM – 6:00 PM with approximately 60-minute headways. Sunday service is provided from 8:16 AM – 6:37 PM with approximately 120-minute headways. Refer to Pierce Transit's Routes & Schedules for more details.

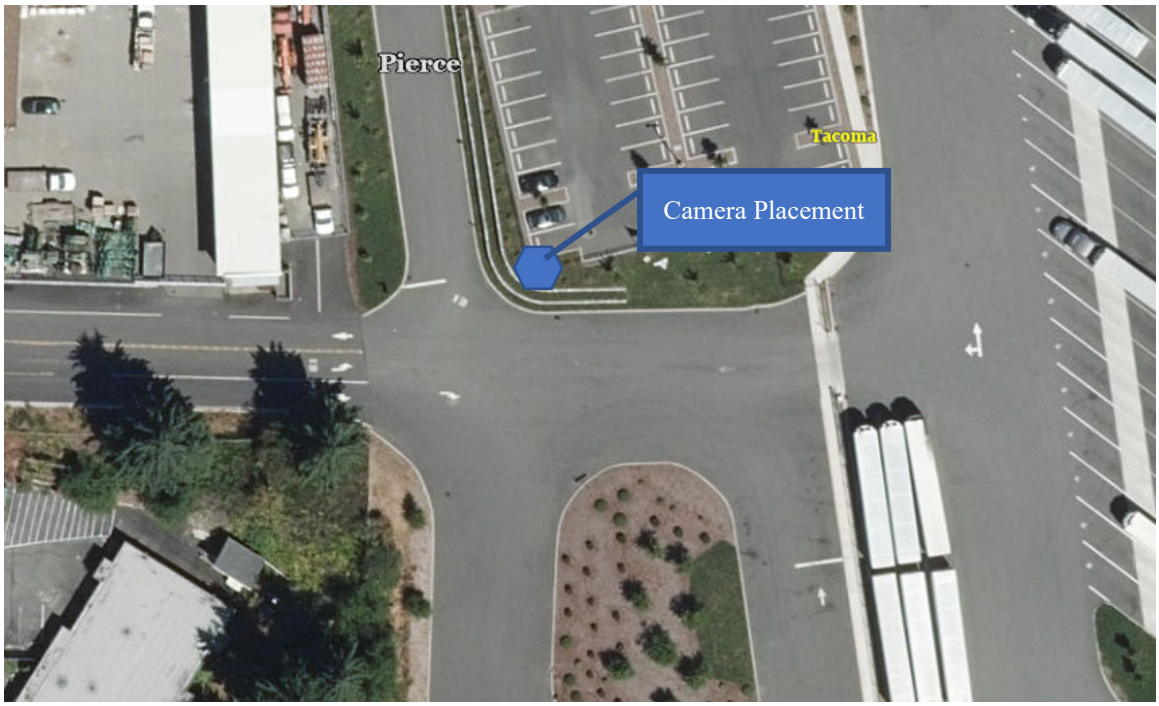
3.3 Roadway Improvements

A review of the City of Tacoma Six-Year (2022-2027) Transportation Improvement Program indicates no improvements are planned in the subject site's vicinity.

3.4 Existing Peak Hour Volumes and Travel Patterns

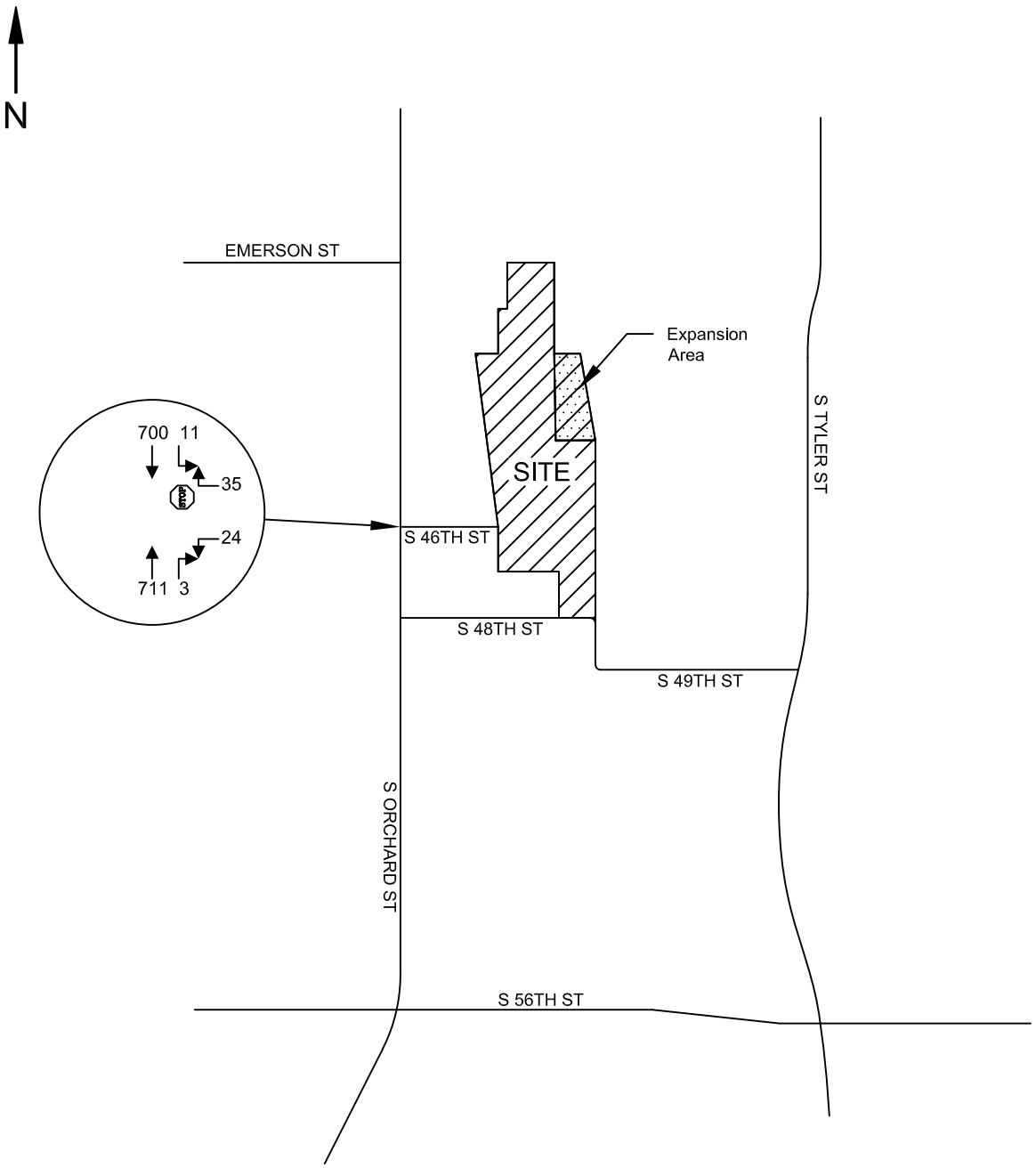
Field data for this study was obtained and collected in January of 2022. Traffic counts were performed at the study intersection of S Orchard Street & S 46th Street between the typical study period of 4:00-6:00 PM which generally represents peak conditions of the adjacent street. See Figure 3 on the following page for peak existing peak hour volumes.

In addition, a camera was placed at the location illustrated below so as to capture all arriving and departing traffic associated with NewCold operations. Counts were conducted over two 24-hour periods to obtain average daily trip and peak hour activity. Counts were administered on January 5th and 6th of 2022. More detailed data is provided in the following sections. Count sheets are provided in the appendix.



3.5 Non-Motorist Traffic

During field observations, only one bicycle was observed leaving/arriving on the site. Given the industrial nature of the development, most traffic is in the form of employees or trucks. No significant increase in non-motorist transport would be expected with a potential site expansion.



HEATH & ASSOCIATES

TRAFFIC AND CIVIL ENGINEERING

NEWCOLD STORAGE

EXISTING PM PEAK HOUR VOLUMES
FIGURE 3

4. FORECAST TRAFFIC DEMAND AND ANALYSIS

4.1 Project Trip Generation

As previously mentioned, traffic counts were performed at the existing NewCold facility to observe existing travel patterns and demands. A trip rate could then be derived to apply against any future expansion for traffic volume estimates.

Data collection at the existing cold storage facility on-site analyzed by our firm was gathered via physical field counts and consisted of tracking each inbound/outbound movement. Cameras were deployed and captured peak period samples over two 24-hour weekdays. The peak period AM (7:00-9:00) midday (9:00 AM-4:00 PM) and PM (4:00-6:00) timeframes were then examined from each 24-hour count. From these peak timeframes, the one-hour reflecting the highest observed total inbound and outbound movements was then used for calculations and is considered the “peak hour.” Full-count sheets for each day and timeframe have been attached to the appendix for reference.

Table 1 below illustrates the calculated inbound and outbound trip generation rates for the average daily (ADT), AM, midday, and PM peak hours for either day. Rates are expressed in terms of vehicles per thousand square feet.

Table 1: Existing NewCold Storage Facility Trip Generation Rates

Size	Date	Vehicle Class	ADT	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
237,291 Sq. Ft.	Wed. 1/5/2022	Passenger	233	9	3	12	11	5	16	2	8	10
		Truck	240	8	9	17	16	13	29	6	5	11
		Total	**473**	17	12	**29**	27	18	**45**	8	13	**21**
	Thurs. 1/6/2022	Passenger	229	13	1	14	10	13	23	4	12	16
		Truck	213	3	8	11	12	10	22	10	12	22
		Total	**442**	16	9	**25**	22	23	**45**	14	24	**38**
Average Trips			**458**	17	10	**27**	24	21	**45**	11	19	**30**
Average Trip Rate per 1,000 sq. ft.			**1.93**	**63%**	**37%**	**0.11**	**53%**	**47%**	**0.19**	**37%**	**63%**	**0.13**

The results indicate an average daily rate of 1.93 vehicle per 1,000 square feet, an AM peak hour rate of 0.11, midday peak hour rate of 0.19, and a PM peak hour rate of 0.13 trips per 1,000 square feet. These trip rates can then be applied to any future expansion of the similar type of use.

To further corroborate the observed trip rates, data were compared to the Institute of Transportation Engineer's *Trip Generation Manual,* 11th Edition. In review, the most comparable designation would be Land Use Code (LUC) of *157 – High-Cube Cold Storage.* See table below for trip rate comparison of the observed activity compared to ITE data.

Table 2: Trip Generation Rate Comparison

Building Size	ADT Trip Rate	AM Trip Rate	Midday Trip Rate	PM Trip Rate
NewCold	1.93	0.11	0.19	0.13
ITE	2.12	0.11	N/A	0.12

As shown in the table, NewCold trip rates are shown to have a strong correlation with respect to ITE data. The NewCold specific trip rates will be applied for trip forecasts as summarized in the below table.

Table 3: Project Trip Generation

Land Use	Size	ADT	AM Peak-Hour			Midday Peak-Hour			PM Peak-Hour		
			In (63%)	Out (37%)	Total	In (53%)	Out (47%)	Total	In (37%)	Out (63%)	Total
NewCold	~200,000 sq. ft.	**386**	14	8	**22**	20	18	**38**	10	16	**26**

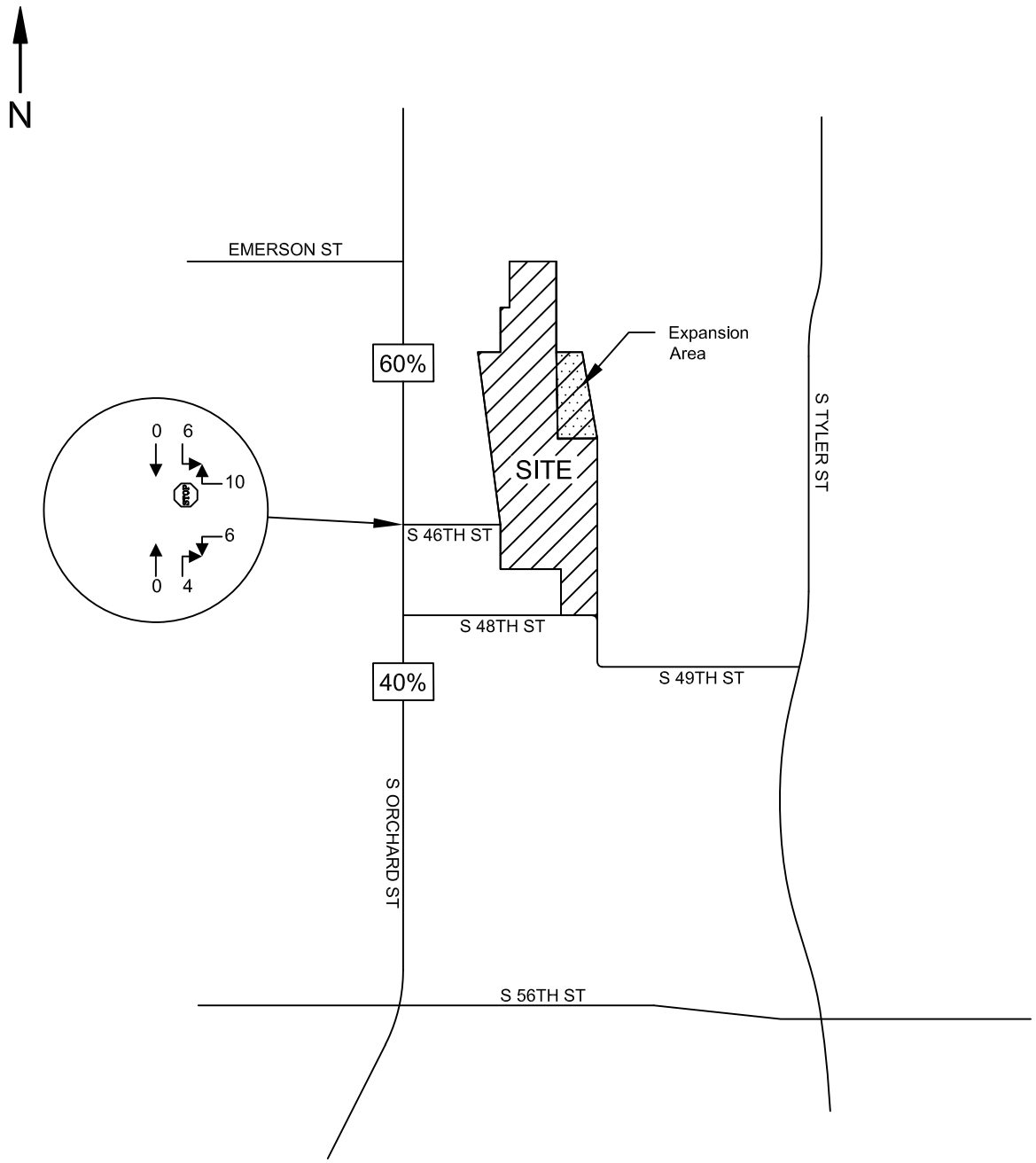
Based on the derived trip generation rates, the proposed expansion of up to 200,000 square feet of the existing use can be expected to generate 386 new average daily trips, 22 new AM peak hour trips, 38 midday peak hour trips, and 26 new PM peak hour trips. Approximately half of the traffic could be in the form of trucks based on existing observations of heavy vehicle composition.

4.2 Distribution & Assignment

Trip distribution describes the anticipated travel routes for inbound and outbound project traffic during the peak hour study period. Traffic to and from the subject site was assigned with a 60/40 north/south split on S Orchard Street based on existing travel patterns identified from the intersection. Figure 4 illustrates the PM peak hour trip distribution and assignment.

4.3 Future Peak Hour Volumes

A 6-year horizon of 2028 was used for future traffic delay analysis. Forecast 2028 background traffic volumes were derived by applying a 2.0 percent compound annual growth rate to the existing volumes shown in Figure 3. This growth rate is higher than the typical City growth rate of 1.2 percent to remain conservative. Forecast 2028 PM peak hour volumes without and with a future expansion are shown in Figure 5.



NEW PM PEAK HOUR TRIPS
INBOUND: 10 VPH
OUTBOUND: 16 VPH

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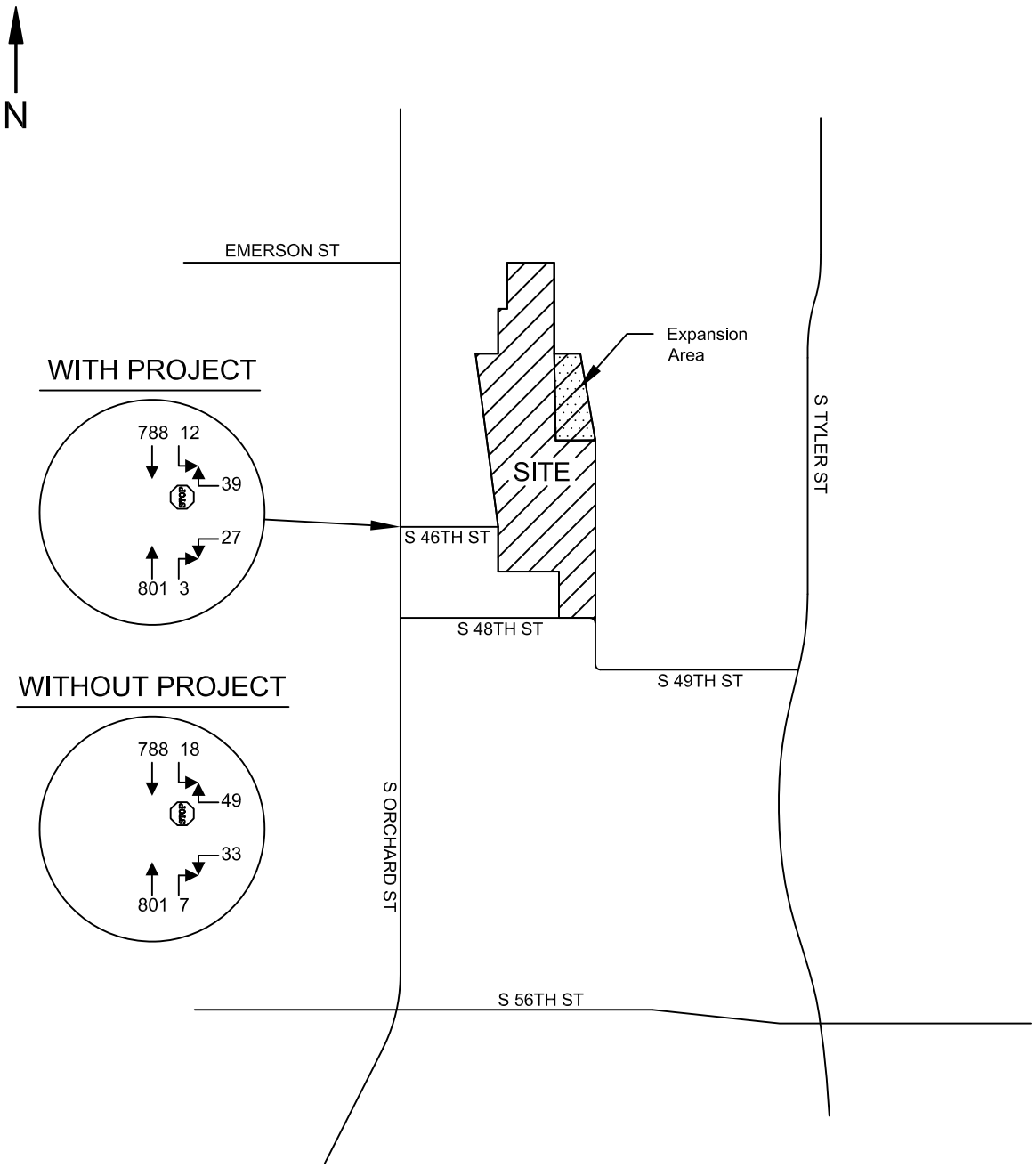
NEWCOLD STORAGE
TRIP DISTRIBUTION & ASSIGNMENT - PM PEAK HOUR
FIGURE 4



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NEWCOLD STORAGE

FORECAST 2028 PM PEAK HOUR VOLUMES
FIGURE 5

4.4 Future Level of Service

Peak hour delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range[1] for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the *Synchro 11* analysis program. Table 4 summarizes existing and forecast 2028 PM peak hour delays without and with the proposed NewCold Tacoma development.

Table 4: Forecast 2028 PM Peak Hour Level of Service

Delays given in Seconds Per Vehicle

			Existing		*2028 Background*		*2028 w/ Expansion*	
Intersection	**Control**	**Approach**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
S Orchard Street & S 46th Street	Stop	Westbound	B	14.4	C	15.7	C	16.0

As summarized in the above table, the primary study intersection receiving project-generated traffic is shown to operate with acceptable LOS C conditions with or without the proposed expansion under the forecast 2028 PM peak hour. The project's additional traffic demands with a potential expansion are not shown to create a significant impact to the study area.

[1] *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤20
C	> 20 and ≤35
D	> 35 and ≤55
E	> 55 and ≤80
F	> 80

Stop Controlled Intersections – Level of Service

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤15
C	> 15 and ≤25
D	> 25 and ≤35
E	> 35 and ≤50
F	> 50

Highway Capacity Manual, 6th Edition

5. CONCLUSIONS AND MITIGATION MEASURES

The intent of this impact study was to examine the impacts from a potential expansion of up to 200,000 square feet of cold storage warehouse. Existing on-site is an approximate 237,291 square foot building occupied by NewCold. A portion of the site is proposed to be rezoned from M1 to M2 which could then allow a building expansion and/or new building. Traffic counts and observations were performed at the existing facility so as to develop a trip rate than can be applied to a future expansion for traffic estimates.

Based on the two 24-hour counts, an expansion of around 200,000 square feet could produce an additional 386 daily trips with 22 trips occurring in the AM peak hour, 38 trips in the midday peak hour, and 26 trips in the PM peak hour. These trip projections are also consistent with ITE data for cold storage warehouse. Approximately half of the traffic coming to and from NewCold were observed as truck traffic. Observations indicated the majority of site-generated traffic to enter through the study intersection of S Orchard Street & S 46th Street. Currently, the intersection was shown to operate with LOS B conditions in the PM peak hour. Under the six-year horizon of 2026, service levels were shown to operate at LOS C with or without a future NewCold expansion. Overall, no significant impact was identified as a result of a potential 200,000 square foot expansion.

Please feel free to contact should there be any questions.

NEW COLD TACOMA
TRAFFIC IMPACT ANALYSIS

APPENDIX

LEVEL OF SERVICE

The following are excerpts from the *2016 Highway Capacity Manual - Transportation Research Board Special Report 209.*

Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver's perception of those conditions.

Level-of-Service definitions

Level of service A represents primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delay at signalized intersections is minimal.

Level of service B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver in the traffic stream is only slightly restricted and delays are not bothersome.

Level of service C represents stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than in LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the average free-flow speed for the arterial classification.

Level of service D borders on a range in which small increases in flow may cause substantial increases in approach delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free-flow speed.

Level of service E is characterized by significant delays and average travel speeds of one-third the free-flow speed or less. Such operations are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

Level of service F characterizes arterial flow at extremely low speeds, from less than one-third to one-quarter of the free-flow speed. Intersection congestion is likely at critical signalized locations, with long delays and extensive queuing.

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File Name : 4807a
Site Code : 00004807
Start Date : 1/4/2022
Page No : 1

Groups Printed- Passenger + - Heavy

	S Orchard Street From North			S 46th St From East			S Orchard St From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
04:00 PM	192	4	196	10	6	16	0	153	153	365
04:15 PM	162	5	167	5	5	10	1	184	185	362
04:30 PM	155	2	157	16	16	32	2	170	172	361
04:45 PM	203	3	206	8	2	10	0	178	178	394
Total	712	14	726	39	29	68	3	685	688	1482
05:00 PM	180	1	181	6	1	7	0	179	179	367
05:15 PM	201	3	204	5	1	6	0	144	144	354
05:30 PM	188	1	189	8	3	11	0	153	153	353
05:45 PM	164	3	167	7	1	8	0	149	149	324
Total	733	8	741	26	6	32	0	625	625	1398
Grand Total	1445	22	1467	65	35	100	3	1310	1313	2880
Apprch %	98.5	1.5		65	35		0.2	99.8		
Total %	50.2	0.8	50.9	2.3	1.2	3.5	0.1	45.5	45.6	
Passenger +	1428	11	1439	52	32	84	3	1295	1298	2821
% Passenger +	98.8	50	98.1	80	91.4	84	100	98.9	98.9	98
Heavy	17	11	28	13	3	16	0	15	15	59
% Heavy	1.2	50	1.9	20	8.6	16	0	1.1	1.1	2

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Site Code : 00004807
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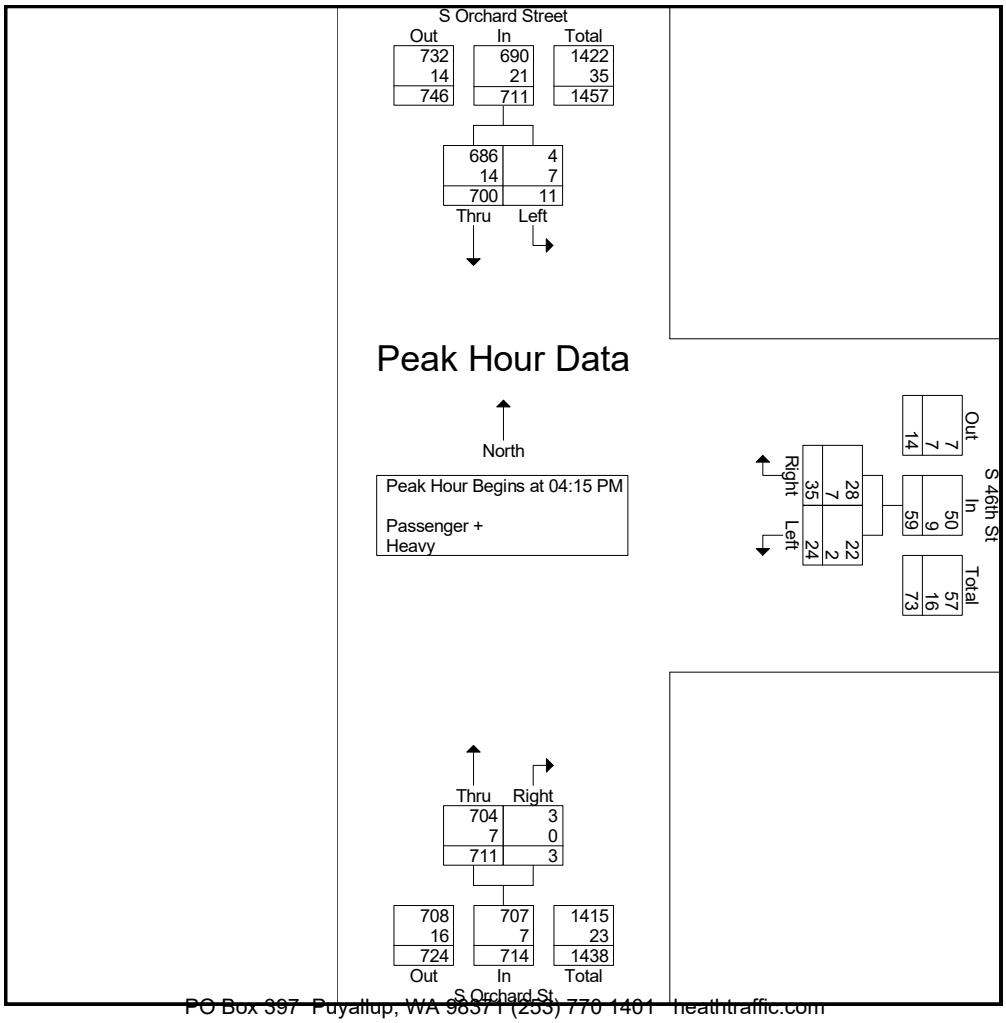
Page No : 2

	S Orchard Street From North			S 46th St From East			S Orchard St From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	162	**5**	167	5	5	10	1	**184**	**185**	362
04:30 PM	155	2	157	**16**	**16**	**32**	**2**	170	172	361
04:45 PM	**203**	3	**206**	8	2	10	0	178	178	**394**
05:00 PM	180	1	181	6	1	7	0	179	179	367
Total Volume	700	11	711	35	24	59	3	711	714	1484
% App. Total	98.5	1.5		59.3	40.7		0.4	99.6		
PHF	.862	.550	.863	.547	.375	.461	.375	.966	.965	.942
Passenger +	686	4	690	28	22	50	3	704	707	1447
% Passenger +	98.0	36.4	97.0	80.0	91.7	84.7	100	99.0	99.0	97.5
Heavy	14	7	21	7	2	9	0	7	7	37
% Heavy	2.0	63.6	3.0	20.0	8.3	15.3	0	1.0	1.0	2.5



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Start Date : 1/5/2022
Page No : 1

Groups Printed- Passenger + - Heavy

	Outbound From North	Inbound From South	
Start Time	Thru	Thru	Int. Total
12:00 AM	0	0	0
12:15 AM	0	0	0
12:30 AM	0	0	0
12:45 AM	0	0	0
Total	0	0	0
01:00 AM	0	0	0
01:15 AM	0	0	0
01:30 AM	0	0	0
01:45 AM	0	0	0
Total	0	0	0
02:00 AM	0	0	0
02:15 AM	0	0	0
02:30 AM	0	0	0
02:45 AM	0	2	2
Total	0	2	2
03:00 AM	0	1	1
03:15 AM	1	0	1
03:30 AM	0	1	1
03:45 AM	0	1	1
Total	1	3	4
04:00 AM	0	1	1
04:15 AM	2	2	4
04:30 AM	2	5	7
04:45 AM	3	5	8
Total	7	13	20
05:00 AM	3	4	7
05:15 AM	1	7	8
05:30 AM	4	6	10
05:45 AM	3	11	14
Total	11	28	39
06:00 AM	1	4	5
06:15 AM	4	4	8
06:30 AM	7	2	9
06:45 AM	0	4	4
Total	12	14	26
07:00 AM	3	6	9
07:15 AM	3	2	5
07:30 AM	4	6	10
07:45 AM	0	3	3
Total	10	17	27

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Groups Printed- Passenger + - Heavy

	Outbound From North	Inbound From South	
Start Time	Thru	Thru	Int. Total
08:00 AM	6	3	9
08:15 AM	2	5	7
08:30 AM	0	1	1
08:45 AM	4	2	6
Total	12	11	23
09:00 AM	1	3	4
09:15 AM	2	8	10
09:30 AM	3	5	8
09:45 AM	2	5	7
Total	8	21	29
10:00 AM	8	2	10
10:15 AM	5	7	12
10:30 AM	4	5	9
10:45 AM	3	3	6
Total	20	17	37
11:00 AM	7	2	9
11:15 AM	5	8	13
11:30 AM	5	7	12
11:45 AM	3	4	7
Total	20	21	41
12:00 PM	5	8	13
12:15 PM	4	5	9
12:30 PM	4	1	5
12:45 PM	4	1	5
Total	17	15	32
01:00 PM	9	8	17
01:15 PM	6	2	8
01:30 PM	2	6	8
01:45 PM	4	3	7
Total	21	19	40
02:00 PM	5	0	5
02:15 PM	7	2	9
02:30 PM	3	4	7
02:45 PM	4	3	7
Total	19	9	28
03:00 PM	5	1	6
03:15 PM	3	5	8
03:30 PM	2	4	6
03:45 PM	5	0	5
Total	15	10	25
04:00 PM	7	1	8
04:15 PM	3	1	4

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Page No : 3

Groups Printed- Passenger + - Heavy

	Outbound From North	Inbound From South	
Start Time	Thru	Thru	Int. Total
04:30 PM	2	2	4
04:45 PM	1	4	5
Total	13	8	21
05:00 PM	5	1	6
05:15 PM	4	1	5
05:30 PM	4	1	5
05:45 PM	0	1	1
Total	13	4	17
06:00 PM	4	2	6
06:15 PM	0	2	2
06:30 PM	4	1	5
06:45 PM	0	1	1
Total	8	6	14
07:00 PM	0	3	3
07:15 PM	0	0	0
07:30 PM	2	2	4
07:45 PM	1	0	1
Total	3	5	8
08:00 PM	2	0	2
08:15 PM	1	1	2
08:30 PM	1	2	3
08:45 PM	2	0	2
Total	6	3	9
09:00 PM	1	3	4
09:15 PM	1	0	1
09:30 PM	0	1	1
09:45 PM	1	2	3
Total	3	6	9
10:00 PM	2	0	2
10:15 PM	2	3	5
10:30 PM	4	1	5
10:45 PM	4	1	5
Total	12	5	17
11:00 PM	1	1	2
11:15 PM	1	1	2
11:30 PM	1	0	1
11:45 PM	0	0	0
Total	3	2	5
12:00 AM	0	0	0
Grand Total	234	239	473
Apprch %	100	100	
Total %	49.5	50.5	
Passenger +	115	118	233
% Passenger +	49.1	49.4	49.3
Heavy	119	121	240
% Heavy	50.9	50.6	50.7

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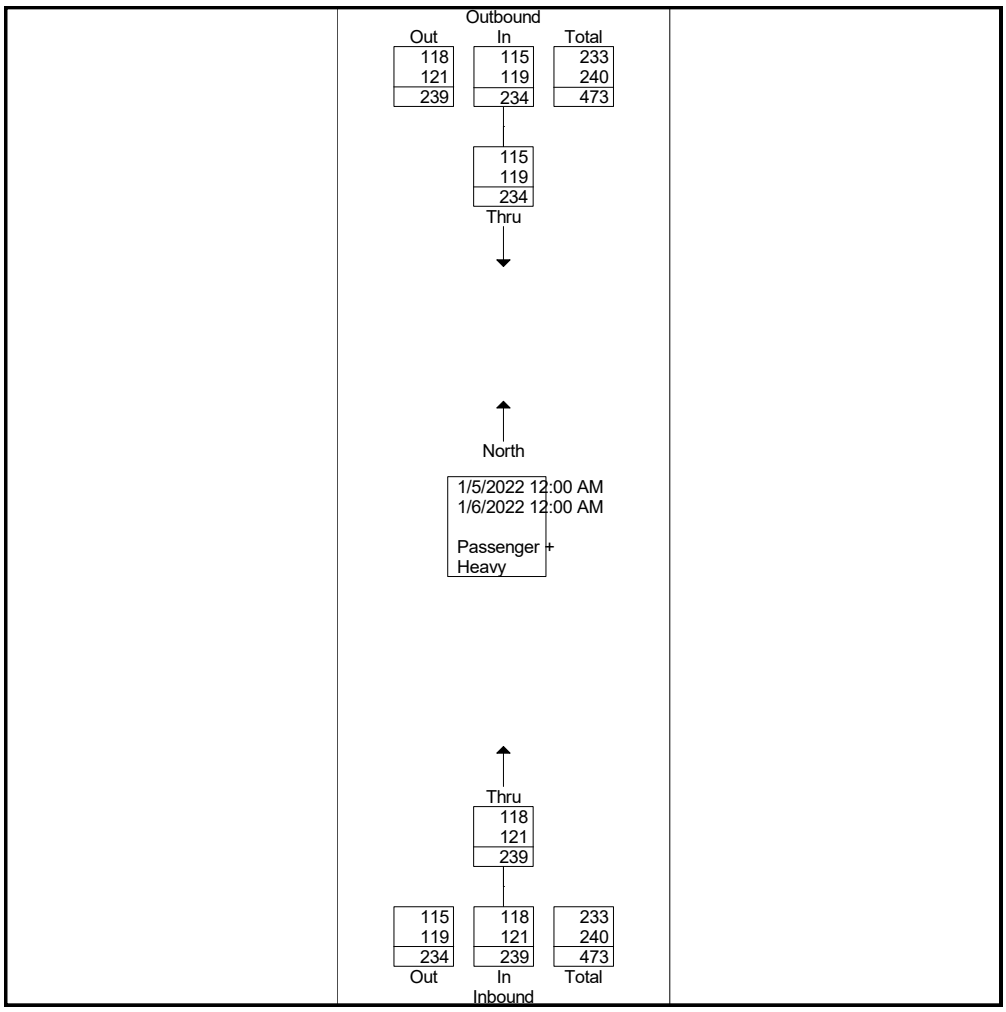

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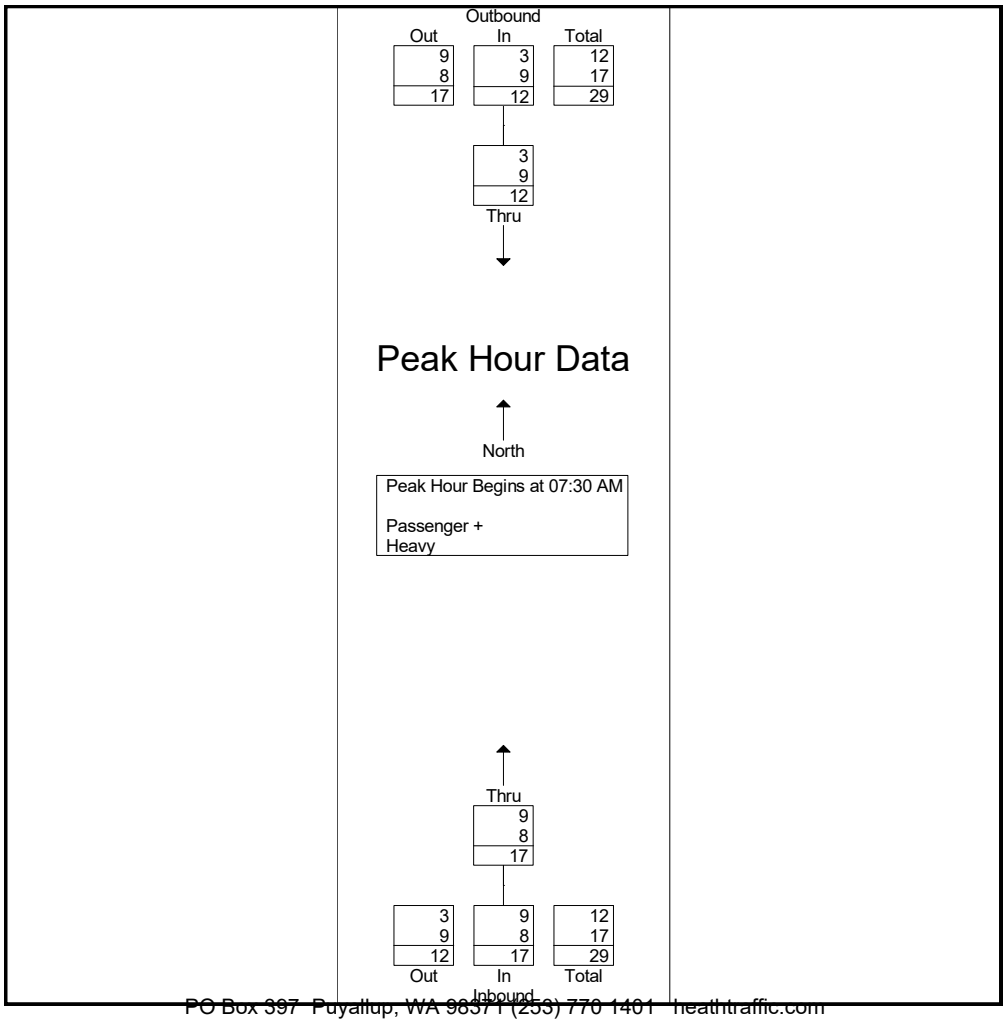
Start Date : 1/5/2022
Page No : 5

	Outbound From North		Inbound From South		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:30 AM					
07:30 AM	4	4	**6**	**6**	**10**
07:45 AM	0	0	3	3	3
08:00 AM	**6**	**6**	3	3	9
08:15 AM	2	2	5	5	7
Total Volume	12	12	17	17	29
% App. Total	100		100		
PHF	.500	.500	.708	.708	.725
Passenger +	3	3	9	9	12
% Passenger +	25.0	25.0	52.9	52.9	41.4
Heavy	9	9	8	8	17
% Heavy	75.0	75.0	47.1	47.1	58.6



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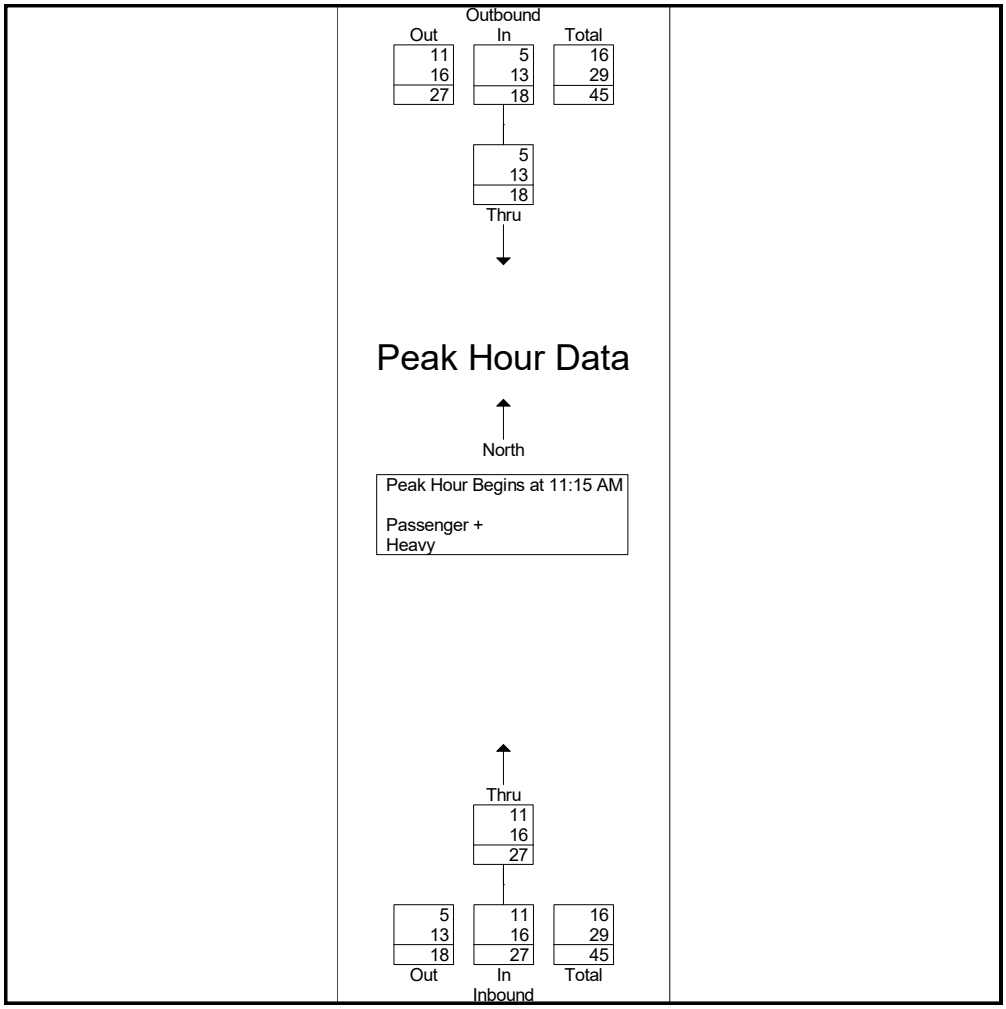
Page No : 6

	Outbound From North		Inbound From South		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 09:00 AM to 03:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 11:15 AM					
11:15 AM	**5**	**5**	**8**	**8**	**13**
11:30 AM	5	5	7	7	12
11:45 AM	3	3	4	4	7
12:00 PM	5	5	8	8	13
Total Volume	18	18	27	27	45
% App. Total	100		100		
PHF	.900	.900	.844	.844	.865
Passenger +	5	5	11	11	16
% Passenger +	27.8	27.8	40.7	40.7	35.6
Heavy	13	13	16	16	29
% Heavy	72.2	72.2	59.3	59.3	64.4



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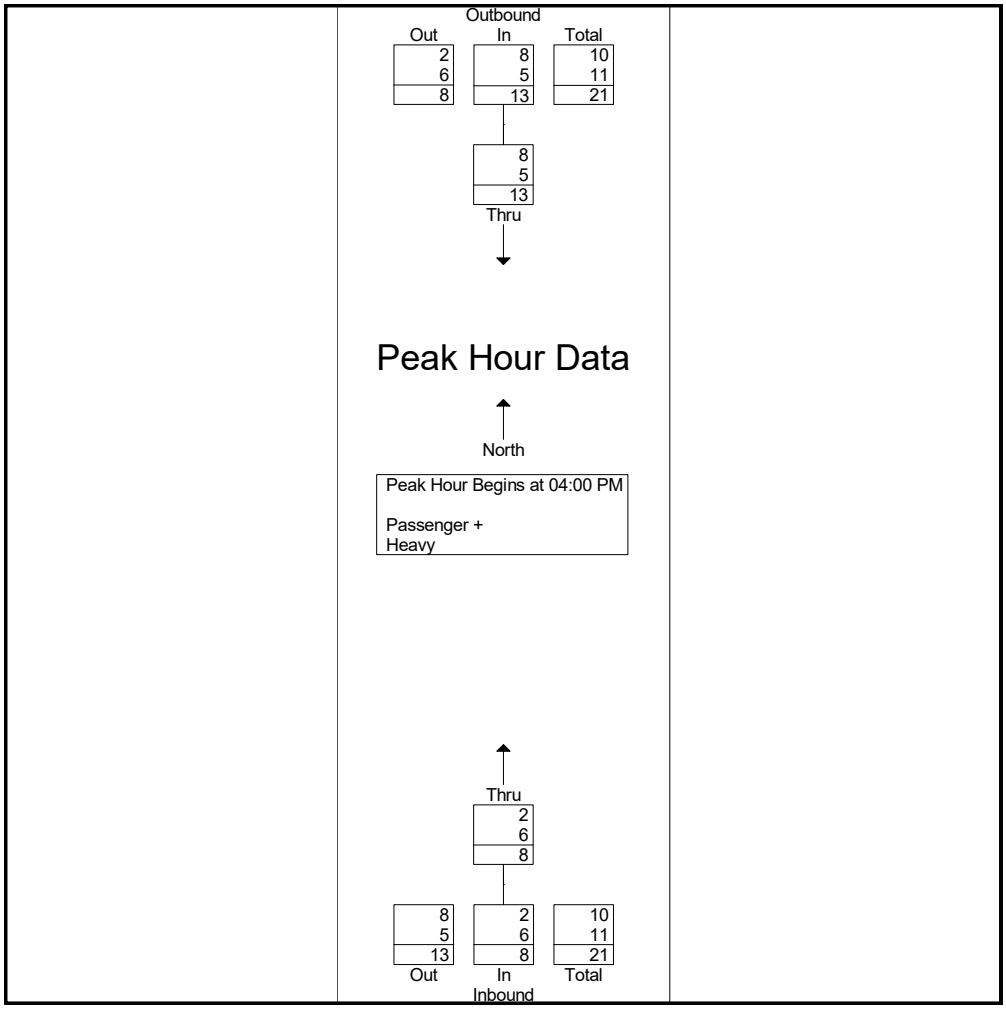
Page No : 7

	Outbound From North		Inbound From South		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	**7**	**7**	1	1	**8**
04:15 PM	3	3	1	1	4
04:30 PM	2	2	2	2	4
04:45 PM	1	1	**4**	**4**	5
Total Volume	13	13	8	8	21
% App. Total	100		100		
PHF	.464	.464	.500	.500	.656
Passenger +	8	8	2	2	10
% Passenger +	61.5	61.5	25.0	25.0	47.6
Heavy	5	5	6	6	11
% Heavy	38.5	38.5	75.0	75.0	52.4



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Site Code : 00004807
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Page No : 1

Groups Printed- Passenger + - Heavy

	Outbound From North	Inbound From South	
Start Time	Thru	Thru	Int. Total
12:00 AM	0	0	0
12:15 AM	0	0	0
12:30 AM	0	0	0
12:45 AM	0	0	0
Total	0	0	0
01:00 AM	0	0	0
01:15 AM	0	0	0
01:30 AM	0	0	0
01:45 AM	0	0	0
Total	0	0	0
02:00 AM	0	0	0
02:15 AM	0	0	0
02:30 AM	0	0	0
02:45 AM	0	0	0
Total	0	0	0
03:00 AM	0	0	0
03:15 AM	0	0	0
03:30 AM	0	0	0
03:45 AM	0	0	0
Total	0	0	0
04:00 AM	0	0	0
04:15 AM	0	0	0
04:30 AM	1	3	4
04:45 AM	3	4	7
Total	4	7	11
05:00 AM	1	6	7
05:15 AM	3	2	5
05:30 AM	0	11	11
05:45 AM	0	6	6
Total	4	25	29
06:00 AM	1	6	7
06:15 AM	3	0	3
06:30 AM	3	3	6
06:45 AM	4	4	8
Total	11	13	24
07:00 AM	5	2	7
07:15 AM	4	3	7
07:30 AM	1	6	7
07:45 AM	1	2	3
Total	11	13	24

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Start Date : 1/6/2022
Page No : 2

Groups Printed- Passenger + - Heavy

	Outbound From North	Inbound From South	
Start Time	Thru	Thru	Int. Total
08:00 AM	3	5	8
08:15 AM	2	2	4
08:30 AM	1	2	3
08:45 AM	3	4	7
Total	9	13	22
09:00 AM	4	1	5
09:15 AM	2	2	4
09:30 AM	2	4	6
09:45 AM	4	1	5
Total	12	8	20
10:00 AM	0	3	3
10:15 AM	5	3	8
10:30 AM	1	2	3
10:45 AM	3	1	4
Total	9	9	18
11:00 AM	4	1	5
11:15 AM	5	4	9
11:30 AM	3	6	9
11:45 AM	5	7	12
Total	17	18	35
12:00 PM	5	3	8
12:15 PM	2	4	6
12:30 PM	3	5	8
12:45 PM	1	1	2
Total	11	13	24
01:00 PM	3	5	8
01:15 PM	3	1	4
01:30 PM	6	10	16
01:45 PM	6	7	13
Total	18	23	41
02:00 PM	6	2	8
02:15 PM	5	3	8
02:30 PM	7	5	12
02:45 PM	5	3	8
Total	23	13	36
03:00 PM	4	3	7
03:15 PM	7	5	12
03:30 PM	5	5	10
03:45 PM	5	3	8
Total	21	16	37
04:00 PM	6	3	9
04:15 PM	7	4	11

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Site Code : 00004807
Start Date : 1/6/2022
Page No : 3

Groups Printed- Passenger + - Heavy

	Outbound From North	Inbound From South	
Start Time	Thru	Thru	Int. Total
04:30 PM	5	3	8
04:45 PM	6	4	10
Total	24	14	38
05:00 PM	6	3	9
05:15 PM	5	3	8
05:30 PM	6	2	8
05:45 PM	6	4	10
Total	23	12	35
06:00 PM	3	4	7
06:15 PM	3	2	5
06:30 PM	2	1	3
06:45 PM	3	3	6
Total	11	10	21
07:00 PM	1	0	1
07:15 PM	1	0	1
07:30 PM	0	1	1
07:45 PM	1	2	3
Total	3	3	6
08:00 PM	1	2	3
08:15 PM	0	0	0
08:30 PM	1	0	1
08:45 PM	0	1	1
Total	2	3	5
09:00 PM	0	3	3
09:15 PM	0	1	1
09:30 PM	0	0	0
09:45 PM	1	4	5
Total	1	8	9
10:00 PM	0	0	0
10:15 PM	0	0	0
10:30 PM	6	1	7
10:45 PM	0	0	0
Total	6	1	7
11:00 PM	0	0	0
11:15 PM	0	0	0
11:30 PM	0	0	0
11:45 PM	0	0	0
Total	0	0	0
12:00 AM	0	0	0
Grand Total	220	222	442
Apprch %	100	100	
Total %	49.8	50.2	
Passenger +	112	117	229
% Passenger +	50.9	52.7	51.8
Heavy	108	105	213
% Heavy	49.1	47.3	48.2

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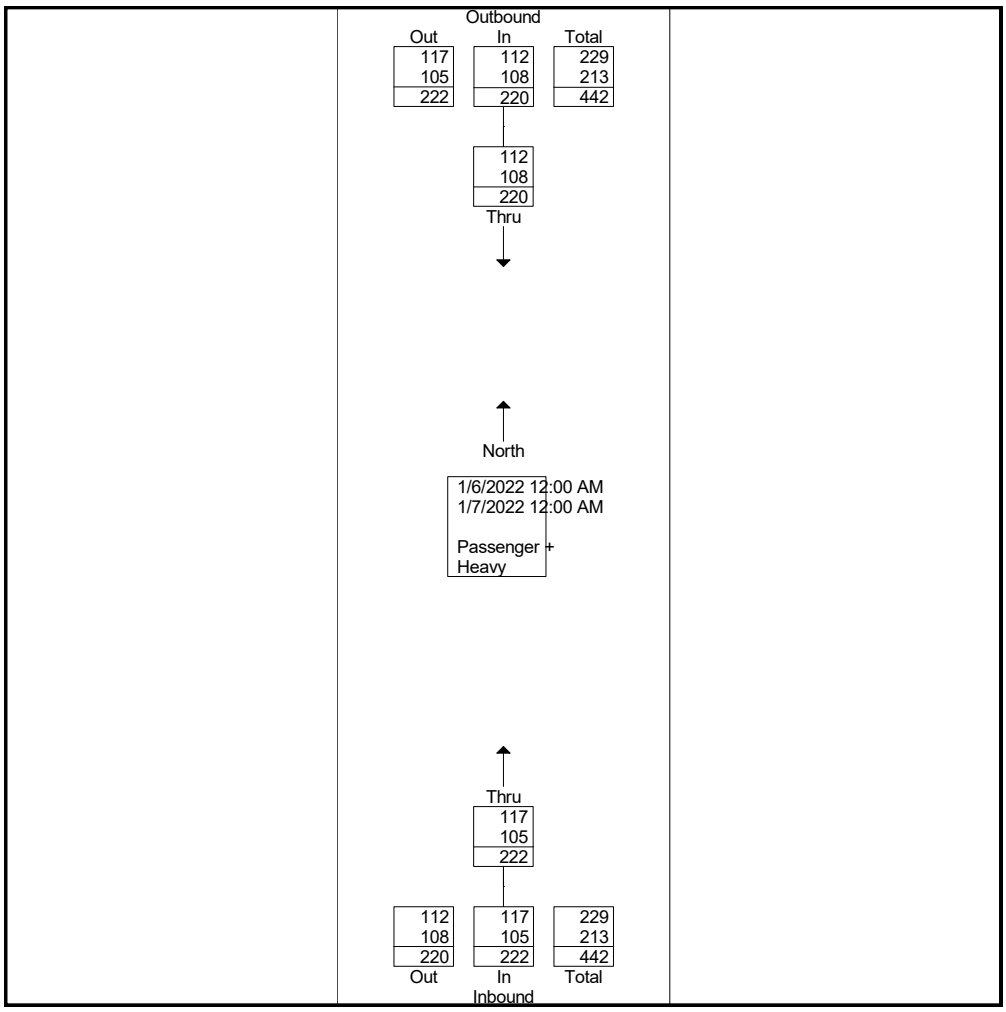

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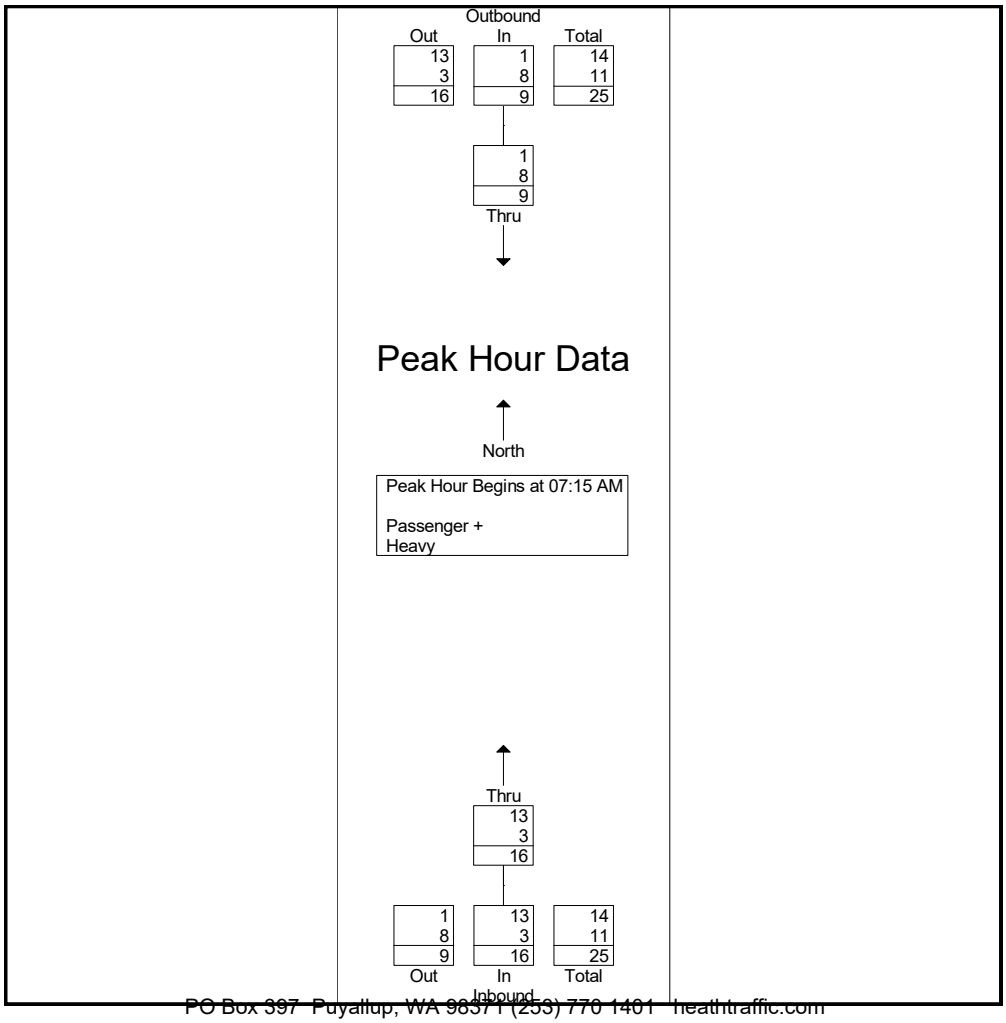
File Name : 4807c2
Site Code : 00004807
Start Date : 1/6/2022
Page No : 5

	Outbound From North		Inbound From South		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:15 AM					
07:15 AM	**4**	**4**	3	3	7
07:30 AM	1	1	**6**	**6**	7
07:45 AM	1	1	2	2	3
08:00 AM	3	3	5	5	**8**
Total Volume	9	9	16	16	25
% App. Total	100		100		
PHF	.563	.563	.667	.667	.781
Passenger +	1	1	13	13	14
% Passenger +	11.1	11.1	81.3	81.3	56.0
Heavy	8	8	3	3	11
% Heavy	88.9	88.9	18.8	18.8	44.0



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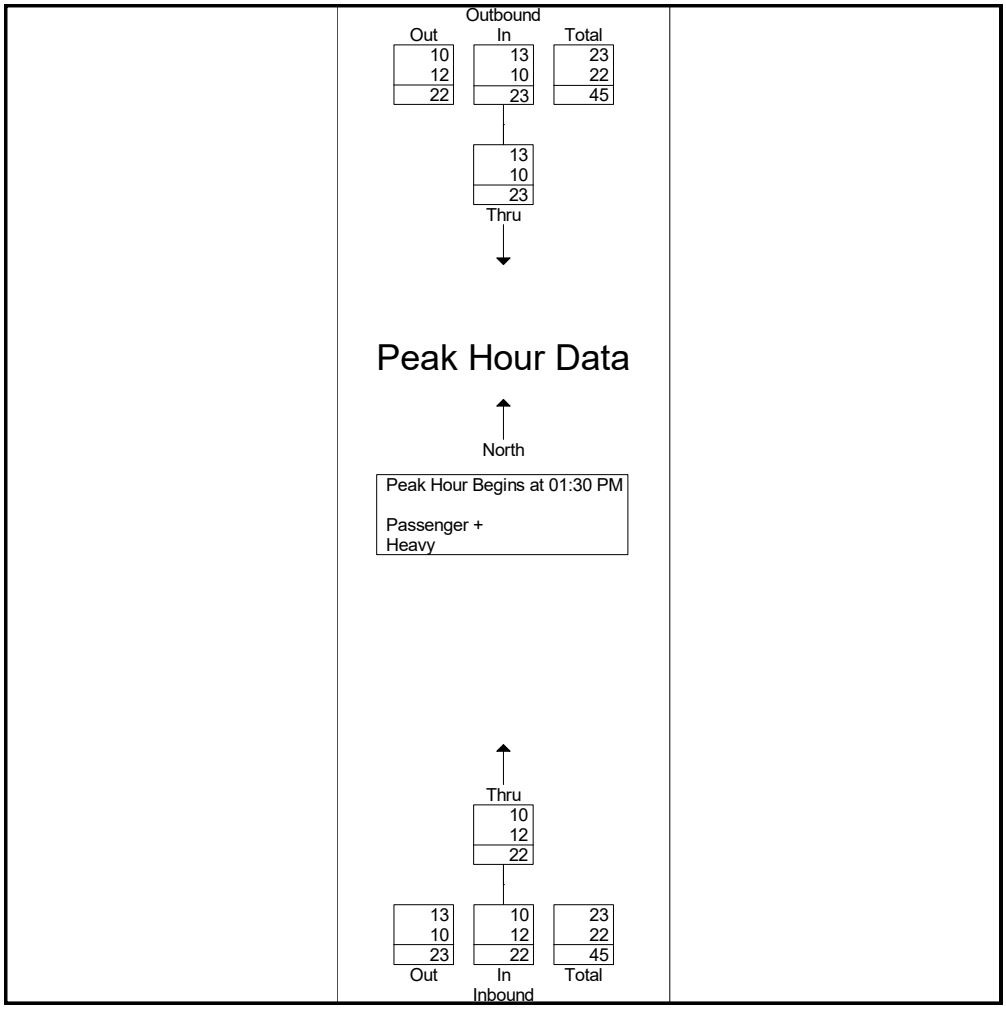
File Name : 4807c2
Site Code : 00004807
Start Date : 1/6/2022
Page No : 6

	Outbound From North		Inbound From South		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 09:00 AM to 03:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 01:30 PM					
01:30 PM	**6**	**6**	**10**	**10**	**16**
01:45 PM	6	6	7	7	13
02:00 PM	6	6	2	2	8
02:15 PM	5	5	3	3	8
Total Volume	23	23	22	22	45
% App. Total	100		100		
PHF	.958	.958	.550	.550	.703
Passenger +	13	13	10	10	23
% Passenger +	56.5	56.5	45.5	45.5	51.1
Heavy	10	10	12	12	22
% Heavy	43.5	43.5	54.5	54.5	48.9



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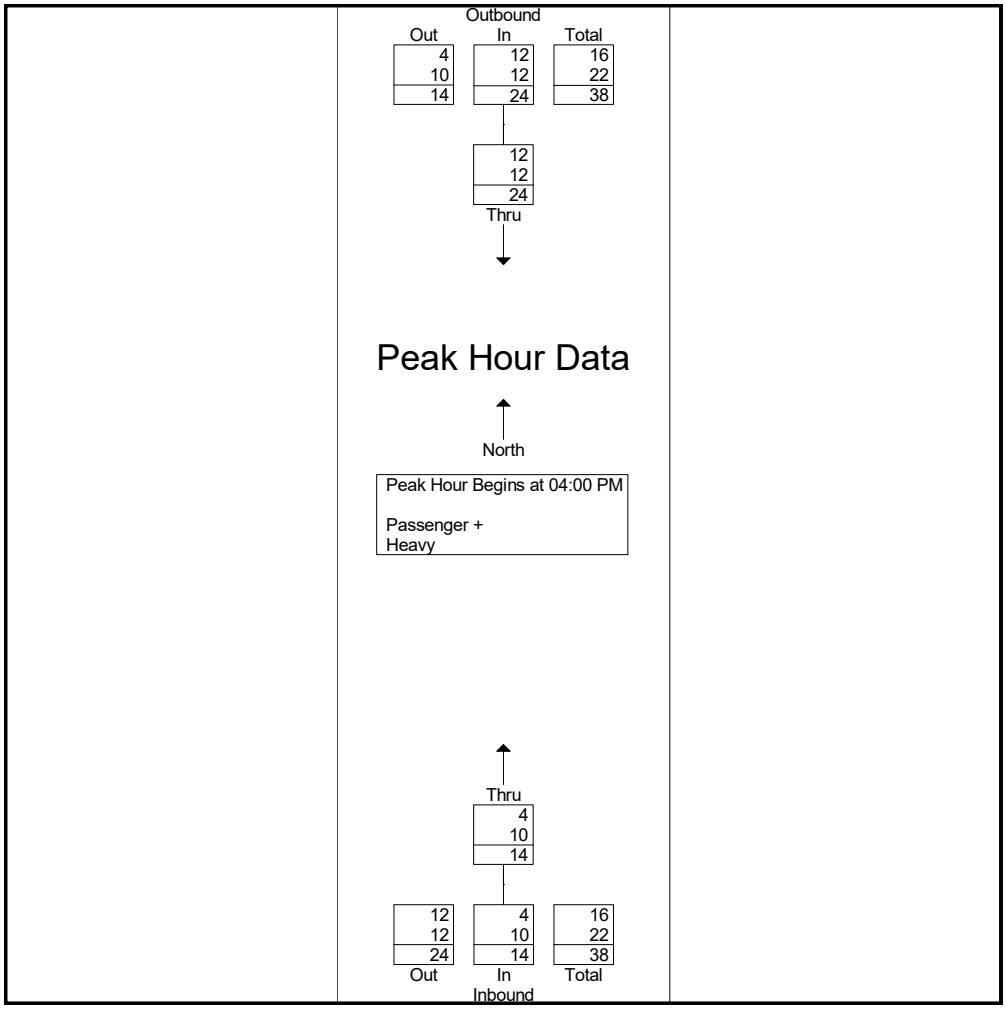
File Name : 4807c2
Site Code : 00004807
Start Date : 1/6/2022
Page No : 7

	Outbound From North		Inbound From South		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	6	6	3	3	9
04:15 PM	**7**	**7**	**4**	**4**	**11**
04:30 PM	5	5	3	3	8
04:45 PM	6	6	4	4	10
Total Volume	24	24	14	14	38
% App. Total	100		100		
PHF	.857	.857	.875	.875	.864
Passenger +	12	12	4	4	16
% Passenger +	50.0	50.0	28.6	28.6	42.1
Heavy	12	12	10	10	22
% Heavy	50.0	50.0	71.4	71.4	57.9



Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	35	711	3	11	700
Future Vol, veh/h	24	35	711	3	11	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	20	1	1	64	2
Mvmt Flow	26	37	756	3	12	745

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1155	380	0	0	759	0
Stage 1	758	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.96	7.3	-	-	5.38	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.5	-	-	2.84	-
Pot Cap-1 Maneuver	181	569	-	-	542	-
Stage 1	408	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	569	-	-	542	-
Mov Cap-2 Maneuver	300	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	300	569	542	-
HCM Lane V/C Ratio	-	-	0.085	0.065	0.022	-
HCM Control Delay (s)	-	-	18.1	11.8	11.8	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	0.1	-

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Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	39	801	3	12	788
Future Vol, veh/h	27	39	801	3	12	788
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	20	1	1	64	2
Mvmt Flow	29	41	852	3	13	838

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1299	428	0	0	855	0
Stage 1	854	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Critical Hdwy	6.96	7.3	-	-	5.38	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.5	-	-	2.84	-
Pot Cap-1 Maneuver	145	528	-	-	486	-
Stage 1	363	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	141	528	-	-	486	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	580	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	263	528	486	-
HCM Lane V/C Ratio	-	-	0.109	0.079	0.026	-
HCM Control Delay (s)	-	-	20.4	12.4	12.6	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.1	-

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Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	49	801	7	18	788
Future Vol, veh/h	33	49	801	7	18	788
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	20	1	1	64	2
Mvmt Flow	35	52	852	7	19	838

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1313	430	0	0	859	0
Stage 1	856	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Critical Hdwy	6.96	7.3	-	-	5.38	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.5	-	-	2.84	-
Pot Cap-1 Maneuver	142	526	-	-	483	-
Stage 1	362	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	526	-	-	483	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	362	-	-	-	-	-
Stage 2	564	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	259	526	483	-
HCM Lane V/C Ratio	-	-	0.136	0.099	0.04	-
HCM Control Delay (s)	-	-	21.1	12.6	12.8	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.3	0.1	-

Attachment B

February 16, 2022

NewCold Seattle, LLC
4601 South Orchard Street
Tacoma, WA 98466

Attn: Sarah Remington

Transmitted via email to: ***sarah.remington@newcold.com***

Re: Results of Noise and Light/Glare Study
NewCold Facility
Tacoma, Washington
Landau Project No. 2042001.010

Dear Ms. Remington:

At the request of NewCold Seattle, LLC (NewCold) and the City of Tacoma (City), Landau Associates, Inc. (Landau) conducted a noise impacts study and light and glare evaluation to inform NewCold's application for a comprehensive plan land-use designation amendment. This report describes the existing regulatory environment, existing land-use designation and development of the property, and potential changes associated with the requested amendment. Additional details on the characteristics of sound and noise used to support this evaluation are provided in Attachment 1.

Background

NewCold currently owns an approximately 34-acre property located at 4601 South Orchard Street (Pierce County Parcel No. 0220133049), in Tacoma, Washington (NewCold Facility), which includes an existing cold-storage warehouse. The center of the parcel is designated heavy industrial (M-2) with the exception of an approximately 3-acre area east of the existing building, which is designated light industrial (M-1). NewCold is requesting a land-use designation change of this light industrial portion of the parcel (Site; see Figure 1) to heavy industrial to allow construction of a second high-cube refrigerated distribution warehouse building adjacent to the east of the existing building. The comprehensive plan land-use designation amendment is the first of several steps before approval would be granted to NewCold. Future steps include review of project-specific designs and consideration of project-specific impacts.

The City's Planning and Development Services has requested that NewCold provide a noise and light/glare study to document potential changes in noise or light impacts to surrounding properties.

Nearby Land Use

Land adjacent to the Site that is to the north, east, and southeast is currently part of the Tacoma Recovery and Transfer Center (landfill, designated "parks and open space"). NewCold owns the

adjacent property to the northwest, west, southwest, and south, which is designated M-2 and developed with NewCold's existing cold storage facility.

The nearest properties with residential land-use designations are located as follows (see Figure 1):

- Orchard Park Health and Rehabilitation Center, designated neighborhood commercial and developed with a nursing home, is located approximately 800 feet to the southwest of the Site. The existing NewCold Facility blocks the line-of-site between the Orchard Park property and the Site.
- Forest Hill Village Apartments, designated low-density multi-family, is located approximately 800 feet east of the Site, on the opposite side of the landfill.
- Orchard Terrace, designated low-density multi-family, is located approximately 1,000 feet northwest of the Site, opposite property designated light-industrial and developed with a stormwater pond, storage and towing facilities.
- A neighborhood designated single-family residential is located approximately 1,400 feet south of the Site (see Figure 1), separated from the Site by the existing NewCold Facility, light industrial property, the landfill, and undeveloped land designated as parks and open space. The northern boundary of the neighborhood is approximately 550 feet south of the existing truck trailer staging area.

Topography

Land on the west side of the NewCold Facility slopes steeply downward to the adjacent properties to the west. The elevation difference between the NewCold Facility and the adjacent properties to the west is approximately 20 feet, so that the roofs of the adjacent buildings are approximately at ground level compared to the operational areas at NewCold. As shown in Attachment 1, this creates a partial barrier, reducing noise and light impacts at the adjacent properties to the west.

To the north and east of the NewCold Facility, the ground surface of the landfill is approximately 20 feet higher than the ground surface of the NewCold Facility, creating a natural barrier to light and noise for adjacent properties to the north and west.

Land Use Regulatory Code

The proposed land-use designation change would apply to any potential future use of the Site, including but not limited to NewCold's proposed expansion. The Tacoma Land Use Regulatory Code, Title 13 of the Tacoma Municipal Code (TMC), establishes the requirements for an M-1 Light Industrial District and an M-2 Heavy Industrial District. Table 1 outlines the difference between light and heavy industrial land use as applicable to potential noise and light/glare impacts.

Table 1: Comparison of Light Industrial and Heavy Industrial Land Use

Characteristic	Light Industrial (M-1)	Heavy Industrial (M-2)
Intended use types	Light manufacturing, warehousing, commercial or civic uses.	Heavy industrial and manufacturing uses that can reasonably be accommodated without adverse impacts on the public's health, welfare, or safety.
Potential impacts on surrounding properties	Complementary and not detrimental to existing or proposed neighboring industrial, commercial, or residential uses. Transition between industrial operations and existing activities and character of the community in which the district is located.	Potential for extended operating hours, heavy truck traffic, and higher levels of outdoor noise.
Development Standards	No difference in lot area or setbacks. Height limit of 75 feet in M-1 and 100 feet in M-2 (with exceptions).	

As shown in the table above and addressed in the Noise and Light/Glare sections below, Title 13 of the TMC does not provide quantitative regulatory differences between M-1 and M-2 for noise or light impacts. All future development would be required to comply with City and Washington State noise limits (described below). Changing the land-use designation of the Site would not change the applicable noise limits.

Noise

The following subsections address potential noise impacts to surrounding properties based on the proposed change in land-use designation.

Tacoma Municipal Code

Chapter 8.122 of the TMC governs noise impacts within the city limits. The TMC does not provide absolute maximum permissible sound levels, rather TMC 8.122.060 specifies maximum permissible sound levels in excess of the ambient sound level (Table 1), applicable to continuous sound measured within a receiving property. These sound levels are not dependent on the land use or zoning of the property; therefore, the proposed change in land-use designation of the Site would not change the maximum permissible sound levels, as shown in Table 2.

Table 2: Maximum Permissible Sound Levels in Excess of Ambient Sound Level

	Outdoors	Indoors
7:00 a.m. to 10:00 p.m. (daytime)	10 dBA	6 dBC
10:00 p.m. to 7:00 a.m. (nighttime)	5 dBA	3 dBC

dBA – A-weighted decibels

dBC – C-weighted decibels

dBA and dBC are sound level weighting systems based on human sensitivity to sound. A-weighting discriminates against low frequencies (similar to human hearing) while C-weighting measures uniformly over the frequency range audible to humans.

Impulsive sounds[1] may increase the total sound level by less than 15 dBA above the ambient sound level when there are fewer than 10 impulses within 1 hour during daytime hours or fewer than 4 impulses within 1 hour during nighttime hours. If the number of impulses exceeds the allowable number, the maximum permissible sound levels shown in Table 2 apply.

Washington Administrative Code

Chapter 173-60-040 of the Washington Administrative Code provides maximum permissible environmental noise levels by the environmental designation for noise abatement (EDNA) of the noise source and receiver, as defined below.

- Class A EDNAs are lands where human beings reside and sleep, generally including residences (single- and multi-family) and other living facilities.
- Class B EDNAs are lands involving uses requiring protection against noise interference with speech such as commercial services and recreational facilities not intended for human habitation (parks and open space, for example).
- Class C EDNAs are lands involving economic activities of such a nature that higher noise levels may be anticipated, such as industrial or agricultural lands.

Heavy industry and light industrial properties both fall under EDNA Class C; therefore, the proposed change in land-use designation would not change the maximum permissible environmental noise levels, as shown in Table 3.

Table 3: Maximum Permissible Environmental Noise Levels

EDNA of Noise Source	EDNA of Receiving Property		
	Class A	Class B	Class C
Class A (Residential)	55 dBA	57 dBA	60 dBA
Class B (Commercial)	57 dBA	60 dBA	65 dBA
Class C (Industrial)	60 dBA	65 dBA	70 dBA

Between the hours of 10 p.m. and 7 a.m., the noise limitations described in Table 2 are reduced by 10 dBA for receiving properties within Class A EDNAs. At any hour of the day or night the applicable noise limitations may be exceeded for any receiving property by no more than:

- 5 dBA for a total of 15 minutes in any 1-hour period; or
- 10 dBA for a total of 5 minutes in any 1-hour period; or
- 15 dBA for a total of 1.5 minutes in any 1-hour period.

[1] "Impulsive sound" is sound that is of short duration where each peak of sound lasts 1 second or less. The sound is characterized by abrupt onset and rapid decay (TMC 8.122.010).

Existing Noise Environment

Existing noise sources within the NewCold Facility include operation of rooftop compressors and oxygen reduction systems associated with the refrigeration system (southwestern portion of the existing NewCold building), truck traffic entering and leaving the NewCold Facility, noise associated with unloading of materials in the loading bays (primarily inside the loading bays), and operation of refrigeration equipment on truck trailers parked in the staging area. Trucks do not use air brakes while in the NewCold Facility. The staging area is equipped with hookups allowing refrigerated trucks to operate without the need for trucks to idle.

Landau conducted baseline noise monitoring at the existing NewCold Facility to establish existing conditions for the Site. Prior to arriving on Site, Landau requested information regarding the timing of operations at the NewCold and adjacent facilities from a NewCold representative. The noise study was planned for mid-day (11:00 a.m. through 2:30 p.m.) on Tuesday, February 1 to measure noise levels at full operational load.

Each measurement included a recorded 15-minute L_{eq} (equivalent continuous sound level) and L_{max} (maximum sound level) in A-weighted decibels using a Norsonic Model 118 noise meter, set on "fast" mode. Landau personnel also observed ambient noise during each measurement in order to note noises (e.g., passing vehicles, alarms, etc.) that contribute to overall noise measurements. Weather conditions were ideal for noise monitoring, overcast to clear with no precipitation and little to no wind.

Measurements 1 and 2 (the same physical location) were taken at the property line closest to the rooftop compressors and oxygen reduction systems located in the southwestern portion of the existing building. NewCold personnel informed Landau staff that during especially warm weather, noise associated with rooftop compressors and oxygen reduction systems is louder than observed during the Site visit. NewCold briefly activated the compressors to operate at higher load to allow Landau to conduct a brief measurement; however, due to the low ambient temperature, operating for an extended time and at a higher load was not possible without risking damage to the equipment. Measurement 1 represents this brief period of compressor operation.

Measurements were taken near property lines to approximate existing noise levels at neighboring properties, with the exception of the following:

- Location 6: The measurement was taken as close as safely possible to the loading dock activities to capture the highest noise levels on Site.
- Location 7: The measurement was taken between the truck trailer staging area and the vegetated area to the south of the NewCold Facility. This location was selected to measure noise associated with the NewCold Facility without excessive contribution from vehicles driving on South 48th Street.

Measurement locations are shown on Figure 1. Equivalent continuous sound level (L_{eq}), maximum sound level (L_{max}), and a description of observed noise sources for each location are shown in Table 4.

Table 4: Baseline Noise Levels

#	Measurement Location (Adjacent Property Type)	Time and Predominant Observed Noise Sources	15-minute Continuous Sound Level (L_{eq})	Maximum Sound Level (L_{max})
1	West of rooftop cooling equipment, with compressors[a] (light industrial)	11:48 a.m. Compressors starting up, operating and shutting down. Background traffic noise, and adjacent business operations.	57.5	77.1
2	West of rooftop cooling equipment without compressors (light industrial)	11:53 a.m. Noise from inside NewCold building, vehicle traffic on South Orchard Street and other nearby roads, backup alarms from offsite, other adjacent business operations.	55.3	66.4
3	Northwest corner of NewCold Facility (light industrial)	12:15 p.m. Vehicle traffic on nearby roads, generator engine running at adjacent business to the west, other adjacent business operations.	56.1	62.1
4	Northern NewCold boundary near communications tower (parks and open space)	12:39 p.m. Maintenance work and vehicle operating at landfill, traffic on nearby roads, equipment associated with communications tower, airplanes.	47.3	64.8
5	Eastern Site boundary near landfill (parks and open space)	1:00 p.m. Truck engines and truck trailer refrigeration equipment in NewCold loading area, noise associated with unloading trucks.	45.8	64.7
6	East side of loading dock area between dock and staged trucks (interior of NewCold Facility)	1:19 p.m. Idling trucks, trucks entering loading area, truck trailer refrigeration equipment.	73.2	90.4
7	Southeast of truck trailer staging area (interior of NewCold Facility)	1:39 p.m. Trucks moving within loading area, truck trailer refrigeration equipment.	54.2	69.3
8	Southwest corner of NewCold Facility (residential)	2:00 p.m. Trucks entering NewCold Facility on South 46th Street, truck trailer refrigeration equipment.	54.3	68.7

a. Measurement 1 was 3 minutes 11 seconds in duration, corresponding with the amount of time the compressors were able to be operated. All other measurements were conducted for 15 minutes.

With the exception of the brief period of compressor operation, observed predominant noise sources along the northwestern and northern portions of the property consisted of operations at adjacent properties, traffic on surrounding roadways, and airplanes. In the southern and central-eastern portions of the property, truck traffic and trailer refrigeration equipment were the primary observed

noise sources. Continuous noise levels at all property line locations were well below Washington's maximum permissible continuous noise levels for industrial operations when compared to the limit for residential receiving properties (60 dBA). As described in Attachment 1, noise attenuates at a rate of approximately 6 to 7.5 dBA per doubling of distance; therefore, noise levels at the nearest residential receiving properties would be well below typical residential background noise levels (50 to 60 dBA) without accounting for intervening topography and vegetation, which would further attenuate noise. No impulse noises were noted from NewCold operations.

Proposed Future Use

NewCold plans to expand the existing refrigerated storage facility to the east, adding a second high-cube warehouse adjacent to the existing structure. The design of the new structure has not been finalized, but current plans include incorporating more energy-efficient and quieter compressor equipment than the equipment used to cool the existing warehouse.

Noise from increased truck and employee traffic serving the expanded facility would also contribute to the local noise environment. However, traffic volume associated with light industrial use of the Site (current designation, which includes warehouses or light manufacturing) would not differ from NewCold's proposed expansion. Traffic impacts associated with the proposed amendment are addressed in the traffic impacts analysis completed by others.

Although NewCold does not intend to sell the property, changing the land-use designation of the Site from M-1 to M-2 could allow for more intensive use of the Site in the future, potentially allowing for more intensive manufacturing processes. Any future development would be required to comply with City and Washington State noise limits for all adjacent and nearby properties. As described above, nearby properties include industrial properties to the northwest, west and south, park or open space to the north and east (currently landfill), and non-adjacent residential properties described above and shown on Figure 1. Changing the land-use designation of the Site would not change the applicable noise limits.

Light and Glare

The following subsections address potential light and glare impacts to surrounding properties based on the proposed change in comprehensive plan land-use designation.

Regulations and Standards

The City does not have lighting regulations specific to industrial operations; however, anyone developing the Site would be required to obtain land-use and building permits prior to development and would be required to comply with all relevant design standards.

The City's Land Use Regulatory Code, Title 13 of the TMC, contains outdoor lighting regulations for off-street parking areas and for transitional areas between non-residential and residential uses.

Standards include use of indirect illumination or floodlighting directed away from adjacent properties to minimize spillover light on surrounding properties.

Joint Base Lewis-McChord Lighting Study Report

In 2019, the Joint Base Lewis-McChord (JBLM) Lighting Study Report[2] was published to assess and improve regional lighting equipment and practices within and in the regions surrounding JBLM (including Tacoma). The report addresses light pollution prevention and mitigation measures and suggests that communities adopt lighting standards to improve aesthetics; minimize glare and light trespass; improve safety for drivers, cyclists, and pedestrians; and improve visibility of the night sky.

The basic principles of light pollution prevention include shielding light so that it is directed only to the intended area, use only the amount of light necessary to the task, and employ light sources with warm-toned light.

The Lighting Study Report makes the following recommendations applicable to the NewCold facility:

- Street lights should be fully shielded to direct light downward with no opaque or reflective elements facing upward. The light source (bulb) should not extend below the shielding. Lights should not be angled, but should be directed directly toward the ground. Modern light-emitting diode (LED) lighting should be the appropriate brightness for the application and should use a warm white light (2,700 Kelvin [K] to 3,000K color temperature).
- Like street lights, wall-mounted lights should be fully shielded to direct light downward toward the area to be illuminated. The light source should not extend below the shielding. Modern LED lighting should be the appropriate brightness for the application and should use a warm white light.

Existing Lighting

Fixtures currently installed at the NewCold Facility consist of highly energy-efficient directional LED lighting. Exterior lighting includes fully shielded street lamp-type lighting in the passenger vehicle and truck parking areas in the southern portion of the property and along an access roadway following the perimeter of the NewCold Facility, including the eastern portion of the Site. Wall-mounted, fully shielded directional LED light fixtures are mounted on the south side of the building to illuminate the employee entrances and above the large loading bay doors. Additional wall-mounted directional light fixtures are present above each human-scale door on the north side of the building. All existing light fixtures are downward-directional with opaque, non-reflective housings that extend below the light source and reduce spillover to adjacent areas. Lighting is located at an appropriate height for the application. See Attachment 2 for photographs of existing light fixtures.

[2] MEI. 2019. Draft: Joint Base Lewis-McChord Lighting Study Report. Monrad Engineering, Inc. April 5.

Proposed Future Lighting

NewCold intends to expand into the Site through construction of a second high-cube refrigerated warehouse building adjacent to the existing building. The proposed building is expected to be the same height and dimensions as the existing high-cube building. No additional street lighting is currently planned as part of the proposed expansion. Lighting would include wall-mounted fixtures over any human-scale doors along the north and east sides of the new building. No new loading bays are currently planned, but if additional loading bays are added in the future, they would be equipped with shielded directional lighting similar to the existing lighting.

The specific light fixtures to be used in the proposed expansion have not been identified, but NewCold is committed to using lighting fixtures and placement that minimize light pollution and light encroachment into surrounding properties. This includes, but is not limited to, use of the newest available LED-type light fixtures allowing precise control of lighting color and brightness compared to legacy light sources, and use of external shielding on all fixtures to prevent light trespass.

While little to no light encroachment is expected due to the use of appropriate lighting, the existing NewCold structure would provide an additional barrier to the west and south. The uphill slope to the landfill would obscure light and glare to the north and east of the Site. The nearest properties designated for residential use are located a minimum of 800 feet from the Site; therefore, no light impacts to nearby residences would be expected due to NewCold's planned use of the Site.

While NewCold has no intention of selling the Site, the proposed designation change would apply to any future development. However, as described under Land Use Regulatory Code above, a change from M-1 to M-2 would not allow for more intrinsically light-intensive uses or result in any changes to regulations regarding lighting on the Site.

LANDAU ASSOCIATES, INC.

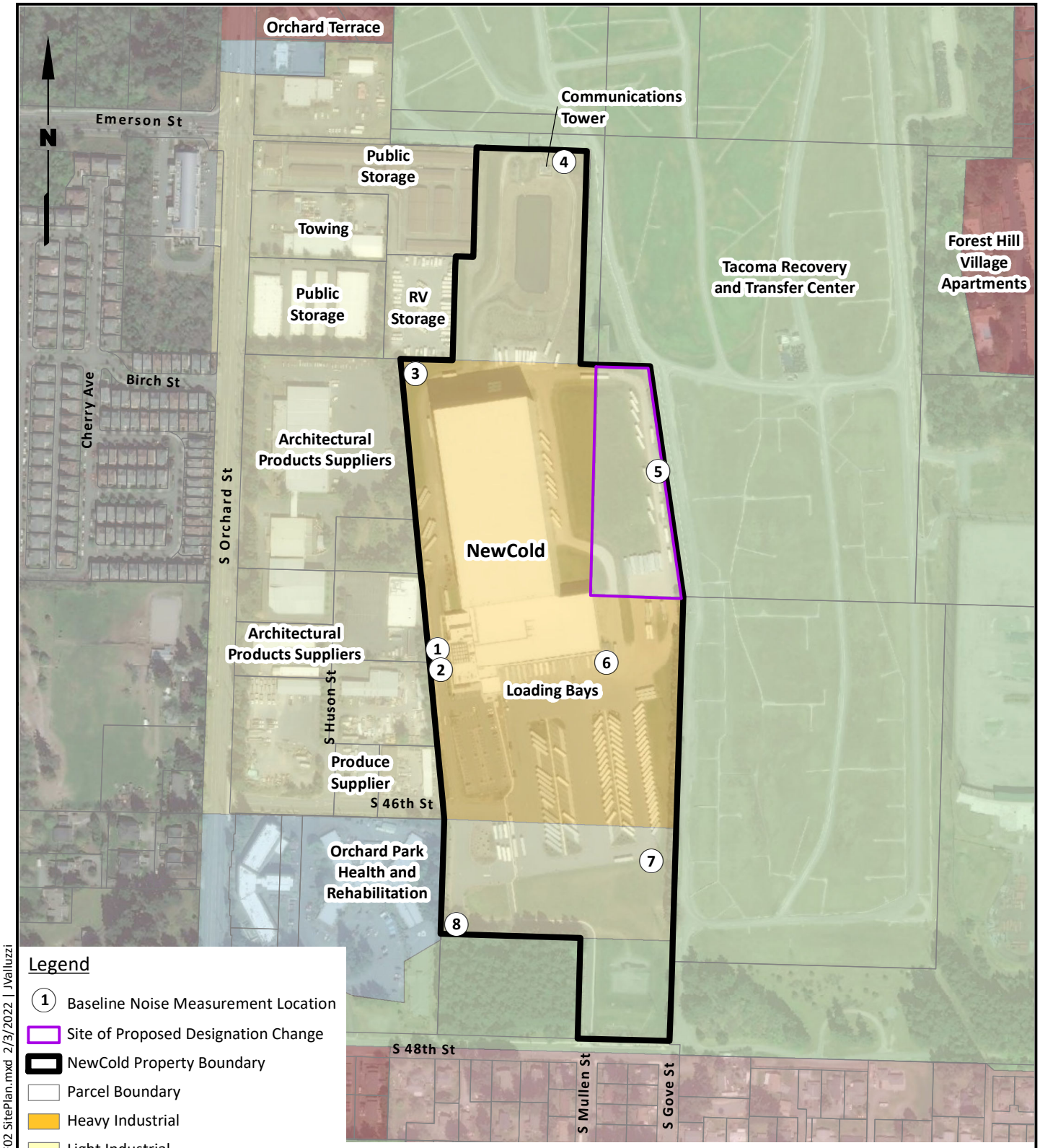
Amy Maule
Senior Scientist

Mark Brunner
Senior Associate

AEM/MWB/RAS/ccy
P:\2042\001\R\NewCold Noise and Light_ltrrpt - 02-16-22.docx

Attachments

Figure 1: Site Plan
Attachment 1: Characteristics of Sound and Noise
Attachment 2: Photographs of Existing Lighting at NewCold Facility



Legend

- (1) Baseline Noise Measurement Location
- Site of Proposed Designation Change
- NewCold Property Boundary
- Parcel Boundary
- Heavy Industrial
- Light Industrial
- Multi-Family (Low Density)
- Single Family Residential
- Neighborhood Commercial
- Parks and Open Space

0 400 800

Scale in Feet

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Source: ESRI World Imagery; Pierce County GIS

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LANDAU ASSOCIATES

NewCold Noise and Light/Glare Study Tacoma, Washington	**Site Plan**	Figure 1

ATTACHMENT 1

Characteristics of Sound and Noise

Attachment 1
Characteristics of Sound and Noise

Definition of Sound

Sound is created when objects vibrate, resulting in a minute variation in surrounding atmospheric pressure, called sound pressure. The human response to sound depends on the magnitude of a sound as a function of its frequency and time pattern (EPA 1974). Magnitude is a measure of the physical sound energy in the air. The range of magnitude the ear can hear, from the faintest to the loudest sound, is so large that sound pressure is expressed on a logarithmic scale in units called decibels (dB). Loudness refers to how people subjectively judge a sound and varies between people.

Sound is measured using the logarithmic decibel scale, so doubling the number of noise sources, such as the number of cars on a roadway, increases noise levels by 3 A-weighted decibels (dBA). A-weighted decibels are noise level measurements that account for relative loudness perceived by human hearing because humans are less sensitive to very low-pitch or high-pitch noises. Therefore, when you combine two noise sources emitting 60 dBA, the combined noise level is 63 dBA, not 120 dBA. The human ear can barely perceive a 3 dBA increase, while a 5 dBA increase is about one and one-half times as loud. A 10 dBA increase appears to be a doubling in noise level to most listeners. A tenfold increase in the number of noise sources will add 10 dBA.

In addition to magnitude, humans also respond to a sound's frequency or pitch. The human ear is very effective at perceiving frequencies between 1,000 and 5,000 hertz (Hz), with less efficiency outside this range. Environmental noise is composed of many frequencies. A-weighting (dBA) of sound levels is applied electronically by a sound level meter and combines the many frequencies into one sound level that simulates how an average person hears sounds of low to moderate magnitude.

Definition of Noise

Noise is unwanted or unpleasant sound. Noise is a subjective term because, as described above, sound levels are perceived differently by different people. Magnitudes of typical noise levels are shown in Table 1.1.

Table 1.1: Typical Noise Levels

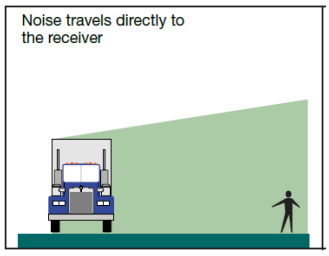
Noise Source	Decibel Level	Effect/Perception	Relative Loudness (human judgement of sound levels)
Jet aircraft takeoff from carrier (50 feet)	140 dBA	Threshold of pain	64 times as loud
Loud rock concert near stage	120 dBA	Uncomfortably loud	16 times as loud
Power lawn mower, motorcycle, garbage truck	100 dBA	Very loud; serious damage possible in 8-hr exposure	4 times as loud
Motorcycle or heavy truck at 25 ft	90 dBA	Likely damage in 8-hr exposure	2 times as loud
Garbage disposal, dishwasher	80 dBA	Moderately loud; possible damage in 8-hr exposure.	Reference loudness
Radio or TV-audio, vacuum cleaner	70 dBA	Upper 70s are annoyingly loud to some people.	½ as loud
Conversation in restaurant, office, background music	60 dBA	Fairly quiet	¼ as loud
Quiet suburb, conversation at home	50 dBA		⅛ as loud
Library, bird calls, lowest limit of urban ambient sound	40 dBA		
Quiet rural area	30 dBA	Very Quiet	
Whisper, rustling leaves	20 dBA		
Breathing	10 dBA	Barely audible	

Sources: Beranek (1988) and EPA (1974).

Sound Propagation

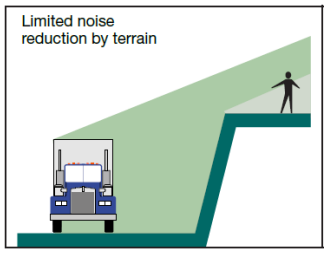
Sound propagation, or how far the sound travels, is affected by the terrain and the elevation of the receiver relative to the noise source. Noise levels can be reduced by breaking the line of sight between the receiver and the noise source.

- Level ground: noise travels in a straight path between the source and receiver.



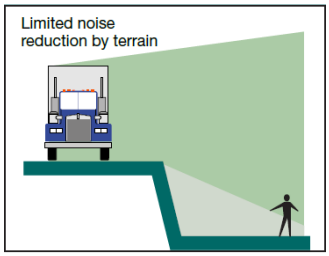
Level Ground

- Depressed source/elevated receiver: terrain may act like a partial noise barrier and reduce noise levels if it crests between the source and receiver.



Depressed source/elevated receiver

- Elevated source/depressed receiver: the edge of the roadway acts as a partial noise barrier. Even a short barrier, like a concrete safety barrier, can reduce noise levels at the subgrade receiver.



Elevated source/depressed receiver

Line and Point Sources

Noise levels decrease with distance from the noise source. For a line source, like a highway, noise levels decrease 3 dBA for every doubling of distance, e.g., from 50 feet to 100 feet, between the source and the receiver over hard ground (concrete, pavement) or 4.5 dBA over soft ground (grass). For point source, like most construction noise, the levels decrease between 6 and 7.5 dBA for every doubling of distance.

Effects of Noise

The Federal Highway Administration noise abatement criteria are based on speech interference, which is a well-documented impact that is relatively reproducible in human response studies. Environmental noise indirectly affects human welfare by interfering with sleep, thought, and conversation. Prolonged exposure to very high levels of environmental noise can cause hearing loss and the US Environmental Protection Agency (EPA) has established a protective level 70 dBA $L_{eq}(24)$ for hearing loss (EPA 1974). Noise also can affect some types of wildlife during certain activities.

Noise Level Descriptors

The equivalent sound level (L_{eq}) is a measure of the average noise level during a specified period of time. A 1-hour period, or hourly L_{eq} [$L_{eq}(h)$], is used to measure highway noise. L_{eq} is a measure of total noise during a time period that places more emphasis on occasional high noise levels that accompany

general background noise levels. For example, if you have two different sounds, and one contains twice as much energy, but lasts only half as long as the other, the two would have the same L_{eq} noise levels.

Either the total noise energy or the highest instantaneous noise level can describe short-term noise levels, such as those from a single truck passing by. The sound exposure level is a measure of total sound energy from an event and is useful in determining what the L_{eq} would be over a period when several noise events occur. L_{max} is the maximum sound level that occurs during a single event and is related to impacts on speech interference and sleep disruption. L_{min} is the minimum sound level during a period of time.

With L_n, "n" is the percent of time that a sound level is exceeded and is used to describe the range of sound levels recorded during the measurement period. For example, the $L_{8.3}$ is the noise level that is exceeded 8.3 percent of the time, or 5 minutes in any hour, and the $L_{2.5}$ is the noise level that is exceeded 2.5 percent of the time, or 1.5 minutes in any hour. Sound varies in the environment and people will generally find a higher, but constant, sound level more tolerable than a quiet background level interrupted by higher sound level events. For example, steady traffic noise from a highway is normally less bothersome than loud alarms or occasional impact noises in an otherwise quiet area.

References

Beranek, Leo L., ed. 1988. Noise and Vibration Control, rev ed. Washington, DC: Institute of Noise Control Engineering.

EPA. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Publication No. 550/9-74-004. US Environmental Protection Agency. March.

ATTACHMENT 2

Photographs of Existing Lighting at NewCold Facility

1. Street lamp-style light fixture.

2. Street lamp-style light fixture.

LANDAU ASSOCIATES

NewCold
Noise and Light/Glare Study
Tacoma, Washington

Photographs of Existing Lighting at NewCold Facility

Figure
2-1

3. Light fixture over human-scale door.

4. Light fixture over human-scale door.

LANDAU ASSOCIATES

NewCold
Noise and Light/Glare Study
Tacoma, Washington

Photographs of Existing Lighting at NewCold Facility

Figure
2-2

5. Light fixture over loading bays.

LANDAU ASSOCIATES	NewCold Noise and Light/Glare Study Tacoma, Washington	**Photographs of Existing Lighting at NewCold Facility**

Figure
2-3

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Attachment C

FAQ

March 2, 2022

ANNUAL AMENDMENTS

The One Tacoma Plan is subject to continuous review, evaluation, and potentially modification to remain relevant and to respond to changing circumstances. The GMA allows the Plan generally to be amended only once each year. Amendments may include adding new Plan elements, modifying existing elements, revising policies or maps, or updating data and information. All proposed modifications are reviewed concurrently to address the cumulative effect of the revisions and to maintain internal consistency among the various plan components and external consistency with regional, county, and adjacent jurisdictional plans. The GMA requires development regulations to be consistent with and to implement the Comprehensive Plan. To maintain this consistency, changes to the One Tacoma Plan often are accompanied by similar changes to development regulations and/or zoning classifications.

Each city and county planning under GMA must conduct a thorough review of its comprehensive plan every eight years, according to the schedule provided in RCW 36.70A.130, and revise its plan if necessary. In addition, these jurisdictions may consider smaller comprehensive plan amendments no more than once per year, with some exceptions (RCW 36.70A.130(2)). Rather than adopting changes on a piecemeal basis, proposed amendments must be considered "concurrently so the cumulative effect of the various proposals can be ascertained."

The process begins with the scoping phase during which time the Planning Commission considers whether applications meet the following criteria, which is outlined under Tacoma Municipal Code, Title 13.02.070, Comprehensive Plan amendment procedures.

- Applications are received no later than the last day of May (however earlier deadlines can be set),
- The Planning Commission has 120 days to decide on acceptance
- Application completeness
- Under the jurisdiction of the Planning Commission
- Repetitive/duplicative
- Staff conducts a preliminary review
    - Basic options analysis is conducted
- Request is manageable and reasonable given city/departmental staffing, budget, and resources

Planning and Development Services

City of Tacoma, Washington

Peter Huffman, Director

Project Manager:

Larry Harala, Principal Planner

lharala@cityoftacoma.org

Project Website:

www.cityoftacoma.org/2022Amendment

Based on that criterion the planning commission evaluates the applications and accepts the docket for that cycle then directs staff to work with the applicants to conduct analysis and public outreach. The Planning Commission has this opportunity to give staff preliminary feedback on the type of analysis, outreach, and overall evaluation it would like to see. Given that there is finite staff time and resources, and that often studies, and specialized analysis can be expensive for applicants and time consuming, it is important that such direction is given early in the process with reasonable time to meet Planning Commission expectations. Staff will then conduct analysis, working with the applicant, and conduct public outreach.

The Planning Commission will release the pack for public review, hold a public hearing, and then make a final determination based on whether the proposed amendments are consistent with the following criteria:

- Whether the proposed amendment will benefit the City as a whole, will not adversely affect the City's public facilities and services, and bears a reasonable relationship to the public health, safety, and welfare; and
- Whether the proposed amendment conforms to applicable provisions of State statutes, case law, regional policies, and the Comprehensive Plan.

After the Planning Commission renders its decision, the Commission will forward its findings to the City Council for a public hearing and review resulting in a final decision.

COMPREHENSIVE PLAN, LAND USE REGULATORY CODE AND THE FUTURE LAND USE MAP

THE ONE TACOMA PLAN

The One Tacoma Plan has been adopted most recently, in December of 2021 by Ordinance No. 28793, is Tacoma's comprehensive plan as required by the State Growth Management Act (GMA). As the City's official statement concerning future growth and development, the Comprehensive Plan sets forth goals, policies and strategies for the health, welfare and quality of life of Tacoma's residents. The One Tacoma Plan is a blueprint for the future character of our City. The plan can be viewed online at www.cityoftacoma.org/OneTacoma.

It is important to remember that a comprehensive plan and a zoning ordinance are two separate tools that are used in conjunction with one another. A comprehensive plan acts in a guiding role and provides recommendations on how land should be utilized to meet the needs and desires of the community, whereas a zoning ordinance regulates land uses as recommended by the plan.

THE LAND USE REGULATORY CODE

Title 13 of the Tacoma Municipal Code (TMC), is the key regulatory mechanism that implements the One Tacoma Plan. Title 13 contains regulations and procedures for controlling land use, platting, shorelines, environment, critical areas, and historic preservation, among others. The Tacoma Municipal Code can be viewed online at www.cityoftacoma.org/Planning (and click on "Tacoma Municipal Code").

THE FUTURE LAND USE MAP

It is typical for cities and counties throughout Washington to adopt a future land Use Map. The Land Use Map sets the direction of future growth in a community. The future land use map, which is policy-oriented, is then implemented in large part by the official zoning map, a regulatory tool. Since these maps are so closely linked, a zoning change cannot be approved unless it is consistent with the future land use map.

In the City of Tacoma, The Future Land Use Map of the One Tacoma Plan (figure 2 of the Urban Form element), illustrates the City's intended future land use pattern through the geographic distribution of residential and commercial areas, the designation of mixed-use and manufacturing/industrial centers, as well as shoreline and single-family detached designations. These designations correspond to specific zoning districts and use and development standards that implement the policies of the One Tacoma Plan. Per the Washington State Growth Management Act and the Tacoma Municipal Code, the City's Land Use Regulations, including zoning districts, should be consistent with the policies of the One Tacoma Plan.

WHAT IS A LAND USE DESIGNATION CHANGE?

The One Tacoma Plan Future Land Use Map land use designations are in place to communicate the long-range plan for land use patterns throughout the city. These proposals seek to re-designate the respective sites from the one designation to slightly more intense designations in order to accommodate changing development patterns within the area and also seeks to more closely align the designation

WHAT IS A PLAN OR CODE AMENDMENT?

A Plan Amendment is the process through which the city considers changes, additions, and updates to the One Tacoma Comprehensive Plan and a Code amendment would be the same considerations pertaining to the Land Use Regulatory Code. The intent of the amendment process is to review all these changes concurrently, where appropriate, so that the cumulative effects can be considered. According to the State Growth Management Act, local comprehensive plans cannot be amended more than once a year.

WHAT IS SITE SPECIFIC REZONING AND HOW DOES IT DIFFER FROM THE COMPREHENSIVE PLAN LAND USE DESIGNATION?

The city of Tacoma as most counties and cities throughout Washington State and the United States, utilizes zoning to define and regulate uses and development standards on land through the city. This is a more focused set of use restrictions, development standards and other regulations. Zoning differs from Land Use Designation in that it is specific and tied actual development and use of the site. The Comprehensive Plan Land Use Designation is tied to the cities overall goals imbedded in the comprehensive plan, it is a long-term vision, and not specific. Zoning is tied to the Land Use Designation, but is an implementation of it specific to actual development and use of the given site.

SEPA PROCESS

During the annual amendment process a SEPA review is done per guidance from Washington State Administrative Code, Chapter 197-11 WAC, The City of Tacoma SEPA process is regulated under Title 13.12, Environmental Code. Administration of the code is primarily through our SEPA process administered by Planning and Development Services with ongoing advisement from the City of Tacoma City Attorney, and our SEPA official.

During non-project actions such as our Annual Amendment cycle the evaluation is at a "big picture" level with the focus on identifying analysis that will be needed at the next step of the given process. In the case of the Comprehensive Land Use Designation Change requests, that is asking applicants to provide preliminary studies on a site specific, yet non-project, basis. Examples might include traffic studies, general light and noise impact studies, possibly preliminary environmental evaluations, and assessments. However, studies relating directly to a given development project would not be required at this time, rather at time of triggering event.

COMMON SEPA TRIGGERS
WORK OCCURRING WITHIN CRITICAL AREAS AND/OR ON LANDS WHOLLY OR PARTLY COVERED BY WATER
CONSTRUCTION OF RESIDENTIAL STRUCTURES – MORE THAN 20 DWELLING UNITS
CONSTRUCTION OR DEMOLITION OF A BUILDING – GREATER THAN 12,000 SQUARE FEET
CONSTRUCTION OF A PARKING LOT – MORE THAN 40 VEHICLES
FILL OR EXCAVATION – MORE THAN 500 CUBIC YARDS
INSTALLATION OR REMOVAL OF IMPERVIOUS TANKS ON INDUSTRIAL PROPERTY – CAPACITY OF MORE THAN 60,000 GALLONS
STORMWATER, WATER, & SEWER UTILITIES – MORE THAN 12 INCHES IN DIAMETER
INSTALLATION OF WIRELESS FACILITIES – ON A RESIDENCE OR SCHOOL OR WITHIN AN AREA ZONED RESIDENTIAL
CONSTRUCTION OF A WIRELESS TOWER – 60 FEET OR TALLER OR WITHIN A RESIDENTIAL ZONE
CERTAIN LAND USE DECISIONS – REZONE

In addition to SEPA evaluation the City of Tacoma has robust critical area code which governs all allowed/permitted activities and development on lands within the City of Tacoma. These include our Critical Area Code (Title 13 Land Use Regulatory Code, 13.11), Shoreline Code (Title 19 Shoreline Master Program), and the Stormwater Manual (2021 SWMM), South Tacoma Groundwater Protection District (Title 13 Land Use Regulatory Code, 13.06.070.D). See attached tip sheet below.

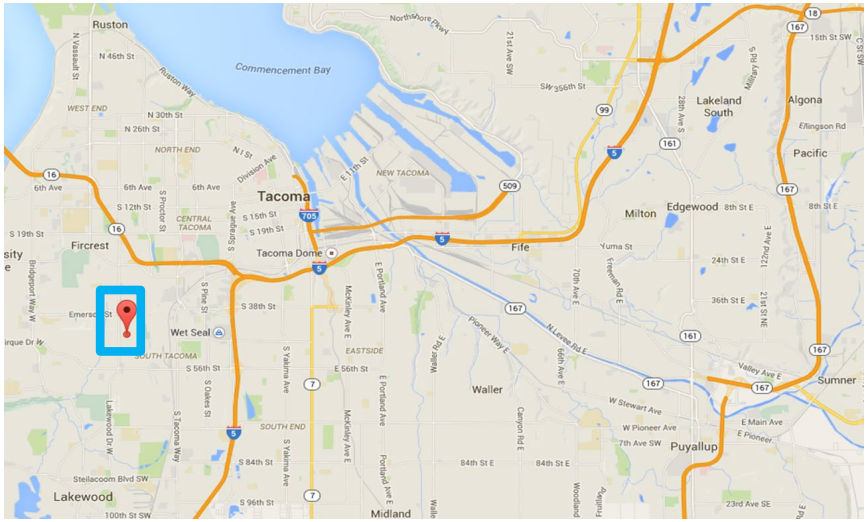
WHAT PROTECTIONS ARE THERE FOR TREES/TREE CANOPY

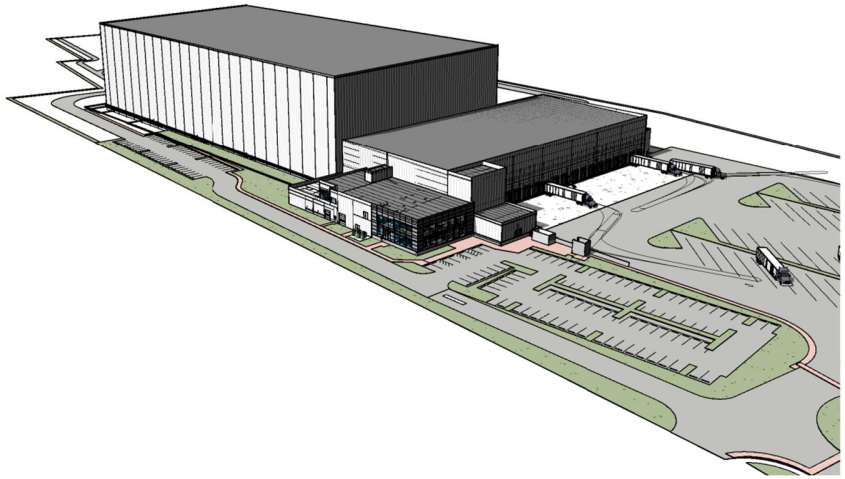
The City of Tacoma has a framework of critical area and environmental codes in place to help preserve what remains of Tacoma's natural environment. Tree Canopy protection has become increasingly important to the city and over the years there have been many actions taken. Most recently the City of Tacoma adopted the Urban Forest Management Plan in 2019 (tacomatreeplan.org).

Additionally Title 13 has tree canopy coverage requirements for new development in residential and commercial zoning districts. As well as landscaping standards in all zoning districts which promote increased tree canopy coverage. (

The Tacoma City Council passed Resolution No. 40509 in December 2019, declaring a climate emergency in Tacoma and calling for a transformative climate action plan to reduce community greenhouse gas (GHG) emissions and adapt to climate impacts we can no longer avoid. As we plan for our collective climate future, the City of Tacoma needs to hear continually from communities that are historically underrepresented, underserved, made vulnerable communities, or expected to experience the first or worst impacts of climate change. By centering frontline communities' priorities, Tacoma's new plan invests in both climate action and environmental justice. Tree canopy coverage is a vital component of the plan and represents a tangible action the city can perform to help meet the goals of the plan.

Facts & Figures





- **Address:** 4601 S. Orchard St., Tacoma
- **Distance to Port:** 9 miles
- **High-Bay – Phase I:** 102,000 pallet positions
- **High-Bay Footprint:** 156,704 sq. ft.
- **High-Bay Height:** 137 ft. (~21,500,000 cubic ft.)
- **Dispatch Floor:** 54,622 sq. ft.
- **Pick Floor:** 54,622 sq. ft.
- **VAL Area:** 4,361 sq. ft.
- **Docks IN / OUT:** 8 / 9
- **Cranes:** 8 “Stacker” Cranes:
- **Yard Operations:** 80+ powered positions
- **Anchor Tenant:** Trident Seafoods
- **Employment:** 75+ (at full capacity)

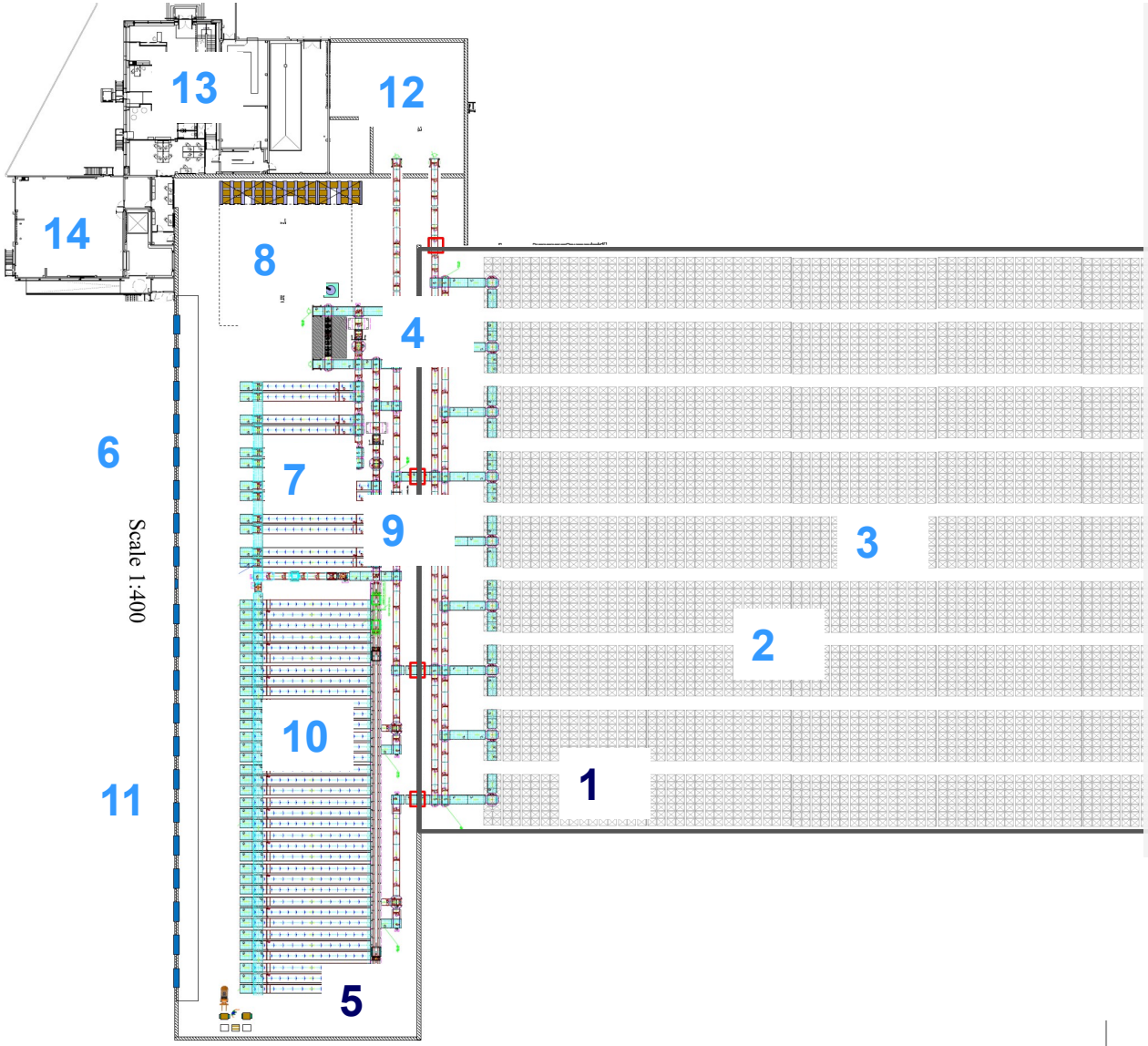
NewCold Tacoma was the first venture of NewCold into the U.S. market. This site is meant to be the showcase site for NewCold and is extremely important for the future – expansion, training, etc.

NEWCOLD ADVANCED COLD LOGISTICS

Advantages of Automation

1. Consistent high-quality, efficient cold store operation
2. Market leading service levels
3. Sustainable (50% less energy consumption)
4. Protecting product integrity & food safety
5. Showcase in your supply chain
6. Driver for standardization and continuous improvement throughout the supply chain
7. Improved inventory management (reporting, tracking & tracing, data sharing / EDI) & forecasting
8. Creating centers of gravity (creating frozen food and cold storage clusters) and synergies in transport; Creating competitive advantage
9. Creating high quality employment opportunities & enabling our employees to outperform with leading technology

The Cold Store Solution



What are we looking at:

1. High-Bay
2. Crane aisles
3. Racking
4. Conveyor system
5. Expedition Area
6. Inbound docks
7. Inbound Buffers
8. Recovery area
9. Elevator to pick floor
10. Outbound buffers
11. Outbound docks
12. VAL Area
13. Offices
14. Technical Area

NEWCOLD ADVANCED COLD LOGISTICS

Developed by Experts

1. Solution Design by NewCold
   - Most experienced team in the industry
   - Proven track record of > 20 successfully operating automated warehouses
   - Standard design (building blocks)

2. Professional Project Development by NewCold & Fisher Construction
   - Overall Project Management by NewCold
   - Cooperation with Leading US Food Processing and Coldstore Construction Company: Fisher Construction
   - And Other Key Equipment Suppliers

3. Implementing Systems & People by NewCold
   - Standard Operating Procedures
   - Testing & Training; Connecting Systems & People
   - Start-up Support

NEWCOLD
ADVANCED COLD LOGISTICS

Managed by Passionate Professionals

1. Standard Operating Procedures
   - Standard Operating Procedures (SOP)
   - Customer Focus: SOP tailored to Trident – NewCold partnership
   - Key Performance Indicators (KPI)

2. Continuous Improvement
   - Business Analysis to identify improvement projects
   - Joint projects (inside and outside the cold store walls)

3. High Service Levels
   - Full tracking & tracing supported by state of the art warehouse management system (WMS)
   - FEFO / BBD / Lot Code
   - Standard Operating Procedures (for all stakeholders)
   - Short warehouse lead time
   - KPI's (steady state operation)

NewCold Tacoma – Site Video

Available upon request…

Site Construction Time Lapse

- **Live Camera Link**

https://app.oxblue.com/open/fisher/newcoldtacoma

NEWCOLD ADVANCED COLD LOGISTICS